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ABSTRACT

Findings from nearly 800 research reports, evaluation studies, needs assessments, dissertations, theses and personal commentaries are included in this review of national Indian educational needs. The sources are dated from 1971 to 1976. Objectives were to: (1) compile a literature review that summarized information about Indian educational needs; (2) include information on specific populations studied; (3) include information on the adequacy of instruments employed, sampling and methodological procedures used, and methods for choosing and training researchers; and (4) note regional differences in data collection techniques. The document is divided into three parts: "Review of the Literature" summarizes findings of eight broad educational areas, e.g., administration, students, and counseling. The first part concludes with a general review of educational needs as indicated by both research studies and personal commentaries. "Summary of Information Gaps in the Knowledge of American Indian Educational Needs" identifies the needs as expressed in the literature and then uses a multilevel classification schema to break them down into tables reflecting needs categories, geocultural regions, and education level. The final section is the bibliography listing the source material. (Author/DS)

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RESEARCH AND EVALUATION REPORT SERIES NO. 64:00

REVIEW OF THE LITERATURE ON EDUCATIONAL NEEDS AND PROBLEMS OF AMERICAN INDIANS AND ALASKA NATIVES
1971 TO 1976

NATIONAL INDIAN EDUCATION NEEDS ASSESSMENT PROJECT

CONDUCTED BY THE NATIONAL INDIAN EDUCATION ASSOCIATION

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FOREWORD

This review of the literature is perhaps one of the most thorough ever conducted for a single project. While the review is specifically devoted to a National Indian Education Needs Assessment, there are many valuable sources reported on a number of important problems and issues. The overall report is a very fair analysis of the items selected for inclusion and researchers and evaluators will find it to be a valuable tool in their work. Should government officials choose to use the review, they will find it very helpful in discussions regarding policy development. It is a pleasure for the Bureau of Indian Affairs to make the review available especially since it was sponsored by our sister organization, the Office of Indian Education, in the U.S. Office of Education.

Thomas R. Hopkins, Chief
Division of Evaluation, Research
and Development

NATIONAL INDIAN EDUCATION NEEDS ASSESSMENT PROJECT

Review of the Literature on Educational Needs and Problems of American Indians and Alaska Natives

1971 to 1976

Submitted to: Department of Health, Education and Welfare
United States Office of Education, Grant
and Procurement Management Division, ISB

Pursuant to: Contract No. 300-76-0436, RFP No. 76-49

Submitted by: The National Indian Education Association

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We would also like to acknowledge these individuals at Battelle Institute who assisted Joe Trimble in completion of this document.

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Barbara Means, Graduate student and Literature Reviewer
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We thank the members of the Indian Policy Advisory and the Technical Advisory Committees for their valuable insights and assistance in reviewing the draft of this document.

We acknowledge the valuable assistance throught the project of Grayson Noley and Dr. Gerald Gipp of The Pennsylvania State University Native American Educational Administration Graduate Program, particularly with regard to the taks of reviewing the Title IV, Part A funded projects for FY 1977.

We are pleased with the results of this report and irrespective of the time constraints, believe it to be the most comprehensive review of the literature to date. It is significant that all of the major tasks relative to the completion of this report were guided by and performed by Indian and Native educators.

Andrew P. Lawson, Project Manager
John A. Reimer, Principal Investigator

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INTRODUCTION

> "Reports have been made from time to time, researchers have spent millions of dollars in investigations and scholars have produced hundreds of theses and dissertations on one aspect or another of Indian education but paternalistic government still does ignore the real needs and continues to control the school system."
>
> -Leonard BearKing (1972)

The contents of this document, to a large extent, reflect the validity of BearKing's contention. The document contains a review of nearly 800 research reports, evaluation studies, needs assessments, dissertations, theses, and personal commentaries, all dealing with educational problems and needs of Native Americans. The information is grouped and reviewed under eight broad educational areas: (1) administration, (2) instruction, (3) teacher training, (4) curriculum, (5) special programs, (6) students, (7) counseling, and (8) economics. The final section is devoted to a general review of educational needs, as indicated by both research studies and personal commentaries.

The findings contained in this report are based upon a selective review of the literature pertaining to American Indian and Alaska Native education from 1971 to 1976. Time constraints necessitated the development and use of inclusion criteria and comparability rules as part of the Multi-classification Schema for selecting the potentially relevant and useful literature for review. A preliminary bibliography was developed which contained the literature to be reviewed. As such, this report should not be viewed as a complete list or summary of past and current needs or as a list of needs which should be met, but as an indicator of past and current education related needs as expressed by the literature and the gaps evident in the assessment of that literature. This report will be the starting point for the development of the methodologies and procedures which will result in the actual assessment of needs nationwide. The RFP document indicated that the State of the Arts Report would glean from the literature existing needs, needs assessment methodologies and current and past program cost analysis data.

As this report was compiled, it became evident that there was a lack of definitive and consistent information regarding current and past needs assessment methodologies and procedures and information regarding cost studies and cost analysis of existing and past programs or projects for American Indians and Alaska Natives.

This document has four objectives:

- To compile a literature review that summarizes the known information about the educational needs of Indians.
- To include information on the specific populations studied, and to specify those populations on which additional research is needed.
- To include specific information on the adequacy of the instuments employed, the sampling and methodological procedures used, and the methods selected for choosing and training researchers.
- To note regional differences in data collection techniques.

Before the literature review was begun, a number of preparatory tasks were carried out; these included: (1) development of a literature review format that was broad enough to critique any type of published information; (2) identification of reference sources; (3) selection of articles to be reviewed, using a detailed set of inclusion and comparaability criteria; (4) development of a multilevel classification schema; and (5) identification and training of competent reviewers (two of whom are Native Americans). Details concerning the first four items above are described in a separate document prepared by Battelle for this project (A Multi-Classification Schema with Inclusion and Comparability Rules for Assessing American Indian Educational Needs Assessment Literature--Needs Assessment Series Report No. 3).

Step 2 of the preparatory steps--the identification of reference sources--was a major undertaking, involving two subtasks. First, the researchers undertook an extensive preliminary review of bibliographies, reference sources, and major manuscripts, thus appraising close to 6,000 references in terms of their value and relevance to the objectives of the study. Articles published earlier than 1970 were generally eliminated in this pass, leaving some 3,000 articles to be evaluated. When those judged to be nonrelevant to the objectives were also eliminated, the list was reduced to approximately 1,200 references. In the second subtask, abstracts of approximately 50 percent of the articles were read at least three times by three different individuals to determine their relevance. Of these articles, approximately 180 were inaccessible or not available. A review of their subject matter suggests that little was lost by not being able to include them in the review. In most cases, available articles either duplicated or touched on the periphery of the subject matter. During the review, a few more articles were eliminated and a few from recent journals were added. The resulting list contained a total of 963 articles. These are listed in the bibliography that accompanies this document.

Efforts were made to extract as much material as possible from each of the articles, in order to meet the objectives of the study. Unfortunately, many research articles failed to provide sufficient detail on sampling procedures, instrument construction, and/or type of interviewers used.

To the best of our knowledge, the information presented in this document accurately represents material available. Personal commentary was deliberately kept to a minimum. In some cases, however—especially in the review of needs assessment methodologies, instrumentation, and sampling techniques—a certain amount of such commentary was unavoidable.

PART I

REVIEW OF THE LITERATURE

ADMINISTRATION

This section deals with the organizational structure, guiding philosophies, and nature of the administrative component of educational institutions serving American Indians. Articles identified for review focus on a broad range of themes, including:

- The need for local community control.
- Composition of school boards.
- Exemplary schools reflecting the current policy of self-determination and limited federal government control.
- Management.
- Necessary leadership.
- Requirements for staffing administrative positions.

For any educational institution to survive and to sustain its operation, it needs an administrative structure to carry out goals and objectives. Prior to 1970, administrative and management philosophies of federally controlled Indian boarding schools, reservation-based mission schools, and public schools with large Indian populations reflected, to a large extent, the policies applicable to educational institutions in general. These philosophies closely adhered to the time-worn notion that Indian students must be educated to prepare them for eventual assimilation into the main current of American life (Svensson, 1973). The assimilationist notion was challenged (McKinley, 1970; Dumbleton and Rice, 1973) with convincing data that indicated that education of American Indian children was a failure.

Many articles that appeared during the early 1970s focused on a number of specific deficiencies existing within the framework of Indian education. Nimnicht (1969) pinpointed a variety of problems, ranging from a lack of cultural content in instructional programs and in school administration to the failure of researchers' attempts to find workable solutions. Corbett (1970) suggested that improvements in Indian education could be attained by developing alternative educational methods. Coombs (1970), Zephier (1973), and Sawyer (1973) elaborated on the problems stemming from the basic philosophic assumptions underlying the administration and organization of federally sponsored schools--problems such as assimilationist goals and lack of flexibility in curriculum development. Similar complaints were voiced by Fuchs and Havighurst (1972) and Berry (1968). Of particular interest is the commentary by Ortiz (1972), who criticized the report of the Kennedy subcommittee (Subcommittee on Indian Education of the U.S. Senate Committee on Labor and Public Welfare). His criticism of this report, which deals with the "tragedy of Indian education," is based on the grounds that, since few reservation and local Indian people were involved in the investigation, valuable culturally sensitive information was omitted. Hansma (1972) and Hayes (1973) analyzed federal policies and legal constraints associated with counterassimilationist movements generated by certain Indian communities. Woods and Harkins (1971) dealt with federal negligence of the education of urban Indians. Muskrat (1972) presented convincing evidence to suggest that the promises, responsibilities, and current organization of Indian education have fallen far short of expectations--especially with regard to the delivery of programs to eligible communities.

Nevertheless, counterarguments also exist in the literature. Some sources suggest that the government is at least partially succeeding in meeting the special educational needs of Indians (Marland, 1972; U.S., DHEW, Office of Education, American Indian education, 1972; U.S. Department of the Interior, BIA, Indian Education: Steps to progress in the 70's, 1973).

SELF-DETERMINATION

As a corrective measure for what he perceived as an intolerable situation, former President Nixon reported to Congress that Indian communities should have the right to assume control and operation of federally funded programs (Nixon, 1970). He thus began a federal policy of self-determination without ending federal responsibility to Indians. Moreover, Nixon maintained that the federal government needed Indian energies and leadership if it was to be effective in improving the Indian's quality of life.

Nixon's message called for the formation of a National Council on Indian Opportunity, composed of Indian educators whose task it was to: (1) provide technical assistance to communities wishing to establish school boards; (2) conduct a nationwide review of the educational status of all Indian children; and (3) evaluate and report annually on the status of all Indian education, including the extent of local control of educational institutions. As a start, the council made several specific suggestions for improving federal programs. One of these suggestions concerned the enactment of a comprehensive plan for education (National Council on Indian Opportunity, 1970), which eventually led to the Indian Education Act of 1972.

A 1971 survey conducted by NAACP served to highlight the themes of articles dealing with the need for direct Indian involvement in education. It also provided data to support the assertions made in these articles. Using a survey methodology approach, NAACP researchers interviewed (1) state and local officials from 60 districts in eight states, (2) national officials in the Bureau of Indian Affairs and the Office of Education, and (3) a random sample of 445 Indian parents. The study found that:

- Indian parents are keenly interested in education but are alienated from public schools.
- Indians are systematically excluded from decision making concerning education.

- Most Indian parents believe their children are not learning, but accept conditions as they are because public schools are a vast improvement over boarding schools.
- Many parents were afraid to talk frankly with interviewers, fearing exposure, harassment of children, and loss of jobs.
- In virtually all cases sampled, parents knew nothing about Title I or joint programs, despite federal regulations requiring the participation of parents in such programs.
- Indian parents have ideas about what is wrong in the schools and have suggestions for improvement.

The report concluded that Indian communities should unite and should exert pressure on federal and state governments to grant them more control over their school systems.

During the 93rd Congress, testimony from public and private sectors was heard on American Indian self-determination and on the Educational Reform Act of 1972. This testimony reaffirmed and substantiated the claim that Indians need to be directly involved in their destiny (Hearings before the Subcommittee on Indian Affairs of the Committee on Interior and Insular Affairs, 1973; Testimony by Indians, 1972). Bills were prepared that provided for Indian takeover of federal programs in general, with specific recommendations for Indian participation in their own government and education.

A related government report, released in 1976, concerned the reorganization of the Bureau of Indian Affairs. This report presented specific recommendations for achieving more Indian involvement, including: (1) delegation of responsibility for program operations from the central office to the field; and (2) establishment of an Indian Policy Review Board to assure that Indian involvement is "built into" every program and policy (The Organization of the Office of Indian Education Programs, 1976).

In summary, literature of the early 1970s that dealt with administration urged a policy of self-determination, to give Indians the opportunity to have a direct effect on the administrative and organizational structure of educational institutions. In advocating self-determination, however, the articles failed to define or explore how self-determination should be brought about.

Issues of Local Control and Self-Determination

The development of methods for involving Indian communities in the operation of local schools is one way in which the policy of self-determination is carried out. Adams (1974) explored the philosophical basis for self-determination and Indian involvement in school programs, and described some attempts to carry out these goals at Rough Rock, New Mexico. Adams saw self-determination as a reaction to assimilation, and maintained that it could be implemented through: (1) a curriculum that stresses the Indian's identity with his cultural background; (2) development of an administrative policy that is responsive to the needs of the Indian community; and (3) staffing school boards, steering committees, and advisory committees with local community members. These three principles were put into operation at the Rough Rock School on the Navajo reservation.

Early self-determination efforts at Rough Rock were evaluated by the Office of Economic Opportunity. One of the evaluators was Erickson (1970), who concluded that successful efforts at community representation require (1) authentic leaders, (2) adequate funding, (3) free rein, (4) freedom from accountability, and (5) "expert" administrators who can direct the program. On the other hand, Emerson (1970) pointed out that community control may be hard to achieve because of potential role conflicts between community members and professional educators. Moreover, it appeared from Erickson's findings that the existing administrator had assumed more power than that granted by the school board. The evaluators called for more accountability of the schools to their local communities, particularly in the delegation of responsibilities to administrators. Of even more importance was their suggestion that the feasibility of self-determination and Indian-controlled schools depends on the establishment of working relationships with all involved. A similar but not as provocative evaluation was conducted by the Bureau of Indian Affairs (BIA) (Hopkins, 1972).

The Erickson report generated a great deal of controversy and led to counterevaluations and a flurry of comment from opposing sides (Emerson, 1970; Wax, 1970). In the main, the criticisms focused on: (1) a preoccupation with political power; (2) assumption of responsibility to call deficiencies to attention; and (3) lack of cultural insight.

Early efforts at control of Indian schools on the Navajo reservation demonstrated that the Indian control concept was viable. The initial experiences at Rough Rock were consistent with current tribal policy (Navajos Prepare for Educational Takeover, 1970; Evaluation of Navajo Community College, 1971). The school program at Ramah, a relatively isolated Navajo community, reflected Navajo policy and demonstrated that local control can work independently of federal government intervention (Norris, 1973; Parker, 1971). Circumstances on the Navajo reservation differ significantly from other reservations and Indian communities throughout the United States; however, very few articles addressed them directly.

In an exemplary article, Lawson (1974) pointed out some of the unique state and federal relationships that affect education of Alaska Natives. He also noted that educational issues in Alaska are compounded by the lack of involvement of natives in decision making. In separate articles, Darnell (1972) and Feldman (1973) came to similar conclusions, adding that steps should be taken to insure that teachers of Alaska Natives are bilingual.

In a related but more general article, Buckanaga (1973) discussed the political realities facing Indian communities with respect to controlling the quality of education in their schools. In brief, he maintained that Indian communities must develop resources to handle the political, legal, and educational constraints imposed by federal and state regulations governing Indian schools. Similarly, Rosenfelt (1973) discussed strategies that Indian communities could adopt to overcome local obstacles blocking their self-determination efforts. He concluded that, if Indians are to seek increased control of schools, they have no choice but to work within the existing system and to make it respond to the legitimate needs of the people.

The Strategy of Indian-Controlled Schools

Most literature on the subject of Indian-controlled schools deals with problems of achieving control of local schools. In the early 1970s, communities developed a number of self-correcting measures and strategies for dealing with some of these problems (Control of Indian Education in BIA Schools: A Program Report, 1975). Nevertheless, difficulties continued. A congressionally appointed subcommittee identified problems of underrepresentation and political constraints (Antell, 1972). In addition, investigations were undertaken concerning allegations of misspent funds that were earmarked for Indian children (The Response to an Even Chance, 1971).

McKinley (1970), Gaillard (1972), and Steif (1972) addressed the issue of who should control Indian schools. Each arrived at his conclusion by different methods.

McKinley collected baseline data on school systems attended by Indians in five geocultural regions (i.e., Upper Midwest, Central Southwest Rocky Mountain, Interior Southwest, and Pacific Northwest). Analyzing data from three pilot projects in which a community could control or had the potential of controlling the local schools, McKinley concluded that Indian schools must greatly improve their instructional programs, their instructional methods, and their teacher training programs, and must also increase teacher understanding of the unique problems of Indian students.

Using a slightly less rigorous approach, Gaillard surveyed and interviewed government officials and Indian leaders, visited reservation schools in several states, and attended meetings of the Coalition of Indian-Controlled Schools, to determine procedures and justifications for implementing the Indian-controlled school concept. Gaillard concluded that Indians have good reason for wanting to control the education of their children, but pointed out a number of difficulties that they will face in the process of trying to achieve this goal: (1) providing a meaningful education while at the same time being compelled to submit to external controls; (2) achieving accreditation; (3) dealing with values of the dominant culture that are not consistent with local cultural values; and (4) obtaining economic resources necessary to encourage graduates to remain in the community.

Steif (1972) commented on the need for the federal government to recognize the amount of cultural diversity among Indian groups as compared with other cultural groups in the United States. This recognition should be sufficient reason to permit Indian communities to develop and control their own schools.

The rationale and need for Indian-controlled schools was best summarized by a survey conducted in 1970 by the National Council on Indian Opportunity (Project Outreach, 1970). The study emphasized two consistent themes:

- Indian education programs are not succeeding in educating Indian students.
- Greater Indian control of schools can result in programs that are more relevant to Indian children.

To solve these problems, the study recommended: (1) tribal control of the operation of reservation schools; (2) the use of contractual services to meet existing deficiencies; (3) increased Indian representation on school boards; and (4) a push for increased Indian representation at state and federal levels to influence policy, appropriations, and legislation.

COMMUNITY PARTICIPATION

Indian control of education requires feedback from the community to develop appropriate mechanisms and procedures. In somewhat related articles, Parker (1971, 1974) and Weinman (1972) discussed events leading up to eventual community control at Ramah on the Navajo reservation in White Shield, North Dakota, and at the San Juan and Santa Clara Pueblos, respectively. Both authors pointed to the unique backgrounds and circumstances that entered into the process of local control in each case, and emphasized the fact that Indian communities may have to approach control from perspectives and orientations indigenous to their own areas. Moreover, Parker (1971) stressed the need for Indian communities ". . . to bring the mental gap to a point where the community as a whole can see such a move as a realistic and desirable alternative" (p. 9).

Similar conclusions were reached in a 1972 evaluation of the Wind River Wyoming Indian High School (Evaluation Report, Wind River Education Association, 1972). In brief, the evaluation sought to identify effective planning efforts that would involve Indian communities in school policy. Areas identified as requiring community input were: (1) selection of a school board (which would then take an active role in development, policy making, and leadership); (2) appointment of a director (who would be given direct lines of authority); (3) curriculum development; (4) establishment of staff qualifications; and (5) development of policy decisions concerning student conduct.

A few articles published in 1974 examined the inherent philosophy behind Indian-controlled schools. Although it would have been more logical if efforts at local control had been preceded, rather than followed, by the development of a guiding philosophy, it is not possible to say for sure which came first, since quite often articles are published long after they have been written. One of the major problems in the area of philosophy--the gap between theory and implementation--was expressed by Killer (1974), when he pointed out that an overwhelming confusion existed among and within Indian communities concerning the purposes and details of the Indian education legislation (Strengthening Navajo Education, 1973). In essence, many communities initiated efforts to control their schools without fully understanding their legal rights. Killer attributed this confusion to federal irresponsibility, and recommended that monies earmarked for Indian education by channeled through a single source.

In a pointed article, Clifford (1974) discussed the theory underlying Indian control. He views Indian control as a regenerative process providing community members with an opportunity to recover lost cultural values. He also sees it as having the potential for promoting solidarity among Indians and self-actualization of the Indian heritage. Clifford believes that Indians will gain more control over their schools in the near future and that this increased control will provide for: (1) immediacy of contact between generations; (2) opportunities for Indian professionals to retain or relearn the value of traditional customs; (3) a forum for expanding culture; (4) an increase in employment opportunities; and (5) Indian control of federal funds.

The unpublished account of Blackburn (1974) concerning the Rough Rock school appears to support the comments and criticisms of Killer and Clifford. Blackburn maintained that the Rough Rock demonstration was not in fact community-controlled--that the only element of tribal control was that the program director was Navajo. Moreover, Blackburn pointed out that the school was little different from any other federally funded school, and that it did not reflect the community. In the sense that it was a demonstration school, he felt that ". . . it has most dreadfully failed." It must be recognized, however, that Blackburn was using interpretive reporting, reflecting his experiences as an instructor at the school.

Parent Involvement

For real community control of education to occur, parents, particularly, must be given opportunities to participate in decision making at the administrative level. A number of articles discussed the role of parents and the procedures necessary to channel their involvement in a meaningful manner. Vineyard (1970) suggested that research be conducted on the composition and function of Indian school boards to assist in breaking down communication barriers between home and school. Research results could then be communicated to parents to provide them with useful information concerning administrative roles, thereby bringing about more parent participation.

Whirlwind Horse (1970), Peters (1970), and Biglin and Pratt (1973) described specific programs designed to increase parent involvement in reservation communities. Both Whirlwind Horse and Peters discussed techniques used on the Pine Ridge reservation in South Dakota. These techniques were helpful in promoting parent-teacher interaction and in establishing a curriculum sensitive to the cultural needs of Sioux children. Biglin and Pratt suggested the development of a source book that would describe the function and role of school systems on the Navajo reservation. All three approaches are consistent with the rationale behind the concept of Indian control, and all three articles present methods that have succeeded in generating parent involvement.

Similarly, Wax and Breunig (1973) described efforts initiated in 1968 by the Hopi tribe of Arizona to involve parents in local school processes. According to their survey, Hopis tend to view schools as Anglo institutions where Indian children are sent to learn Anglo skills. They found that, because of this perception, parent involvement in the schools did not produce significant administrative and curricular changes. These findings suggest that the nature and role of the local school may have to be perceived as relevant to local needs before parent involvement can make significant contributions.

In a 1970 study of Indian parent attitudes toward formal education, Birchard (1970) found that parents felt uninvolved, and hence noninfluential, in school policy making. Similar conclusions were reached by Kleinfeld (1971) and Biglin and Wilson (1972) in their studies of Aleut and Southwestern tribal communities. In the main, existing Indian schools were seen as institutions reflecting an Anglo orientation and were administered accordingly. Many of the conclusions of this study were based on a survey of parents whose children attended Sherman Indian High School (Sherman Indian High School, 1972).

Biglin (1971) surveyed parental attitudes and values toward education of residents in Chinle, Keams Canyon, Kayenta, Ganado, Window Rock, and Tuba City--all villages located on the Navajo and Hopi reservations. The findings of this extensive, eight-volume report suggest that both parents and indigenous traditional cultural values should be brought into the operation of the local schools. Of all the studies examined in this literature review, this study presents the most thorough and systematic analysis of Indian parental attitudes toward education. Biglin took great precautions in structuring interview questionnaires and in refining a research strategy that is sensitive to the cultural backgrounds of the respondents. It should be noted that Schneider's (1972) review of the literature of Indian youth in the Southwest substantiated some of the findings in the Biglin report.

Moorefield (1974) described three Indian education programs in Milwaukee, San Domingo, and Borrego Pass. In each of these cases, school boards were composed of local community representatives, and the schools' curricula were developed around local cultural orientations. Moorefield saw the three programs as good examples of effective use of federal funds by communities to improve the quality of their local education. In addition, the success of these programs sheds light on the importance of the conclusion of Wax and Breunig that parents must perceive the school process as containing elements of local culture that were shaped and developed by the community.

Community Involvement

Community involvement in Indian education can take many forms. Carlson (1974) discussed the effective use of community-sponsored cultural activities in Crownpoint, New Mexico. In this program, students and residents come together to participate in activities of common interest (e.g., rug weaving, photography, theater, and summer recreation). Here again, before the program can succeed, community residents must perceive that the activity generated contains elements of the local culture.

Similar successful efforts among New York Mohawks were discussed by Wells (1974). Certain Mohawk groups set up elected committees to improve specific social conditions--education, housing, and cultural awareness. Wells attributed the success of Mohawk efforts at self-determination of education to both the establishment of open lines of communication between school and community and the active involvement of the community in developing programs around Mohawk culture.

Despite the successes just described, certain key issues must be addressed if Indian communities are to assume an active role in education. Some of these issues are discussed below. Deloria (1973, 1974) maintained that the traditional Indian outlook on responsibilities does not involve the dividing and sorting out of things according to their intrinsic functions. Writing from this traditional perspective, Deloria recommended that, "If Indian education is to succeed in the tribal setting, the communities must become . . . the producers of education. The way to initiate this is to work on the content of education and not on the techniques and procedures." It is difficult to determine if this approach was taken in the Milwaukee, San Domingo, Borrego Pass, Crownpoint, and Mohawk experiences; nevertheless, Deloria's contention is worth considering for future programs. More to the point, however, Porter (1973) maintained that without Indian control of education, the internal fiber of future community life is threatened--particularly if the federal government continues its dominance of Indian schools.

Indian parents often feel isolated from the workings of their school system and hence are reluctant to participate, even when invited. Knight (1970) attributed this feeling to a lack of communication between school administrative staff and community parents. To support her contention, Knight asked selected personnel in a Southwest Indian school to keep a diary of their "out-of-school" activities for 15 days. Results indicated that only 29 percent of out-of-school activities involved Indian people. In some instances, contacts were "accidental" and unplanned. It would appear that non-Indian teachers need to become more intimately involved with the local community if their educational efforts are to reflect local needs effectively. Knight suggested a few ways to bring about this increased involvement, such as more thorough, intensive staff meetings; more emphasis on getting to know community members; and the use of group interaction techniques involving community and school personnel.

Certain circumstances tend to hamper local control and Indian management of schools. Thomas and Wahrhaftig (1972) expressed concern about the differences between nonreservation Eastern Oklahoma Cherokees and neighboring whites in terms of their life-styles and social classes. They saw these differences as having a negative impact on school consolidation, and observed that the local schools cater to non-Indians. In their opinion, to make the curriculum and school experiences relevant for rural Cherokees would require reform of the administrative structure, as well as input from local Indian residents.

Similar circumstances exist in off-reservation, federally funded boarding schools. Although few articles, if any, addressed the problems faced by these schools, there are efforts under way to assist schools at Riverside, California, and Chilocco, Oklahoma, through special programs set up by the BIA (Off-Reservation Boarding School Project, 1972).

In the past six years, efforts at community control of Indian schools have experienced a variety of growing pains. It was never expected that these efforts to improve Indian education would be achieved smoothly in one sweeping giant step, and a number of problems still remain. A series of reports released in 1974 and 1975 dealt with the control of Indian education in schools operated by the Bureau of Indian Affairs (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, Nos. 29-29.08, 1974). This series discussed issues of self-management, current lack of full participation by tribes, skepticism of tribal councils, and policy relationship between the BIA and tribal groups. Because the conclusions from three of these reports relate particularly to school administration, they are discussed in some detail in the paragraphs that follow.

Report 29.01 (1974) discussed the finding that few tribes take advantage of the option of assuming complete control of local, federally funded schools. The report concluded that tribes may not be fully aware of the options available. In particular, it criticized the ineffectiveness of a management program series prepared by the BIA to inform parents of local options. Although efforts are under way to communicate alternatives, local federally funded schools continue, in the meantime, to be administered in the traditional fashion.

A related report, Report 29.04 (1975), discussed procedures for initiating school management by tribes and presented a training package. The report outlined a six-step procedure to help interested tribal and community groups achieve control of their schools.

Report 29.05 (1975) discussed the role of tribal governments in assuming control of off-reservation boarding schools. This role was never explicitly outlined in the original federal initiative. The report stressed the concern that many tribes view local control as the only option, rather than as one of a number of options.

Report 29.08 (1976) is perhaps the most informative review of current local school efforts. Its findings were based on data obtained from four sources: (1) field trips taken by federal officials; (2) questionnaire responses; (3) review of area and agency office records; and (4) extensive interviews with BIA personnel, tribal council members, Indian leaders, and affected parents and students of BIA schools. The following are some of the key summary points:

- Many times, tribes have not made the decisions to take over the control of their schools because of conflicts between community and federal school officials.
- Opposing factions existing among Indians on a given reservation make it difficult to arrive at a consensus regarding control of schools.
- The passage of Public Law 93-638 and its subsequent interpretation by tribal governments was confusing and initiated general suspicion.

- Efforts of BIA personnel to implement tribal control of schools were interpreted by many as being too assertive; they felt that they were being pressured to act too quickly.
- Many federal officials viewed tribal control of schools as an educational matter and hence not within their list of responsibilities to implement.
- Too many federal officials were involved in decisions; little room was left for community input.

Specific recommendations from this report have been implemented and could have an impact on local school control efforts.

In July 1976, Report 39.01 was released (U.S. Department of the Interior, BIA, Research and Evaluation Report Series). This lengthy report outlined a series of organizational goals designed to bring about Indian control of local schools. The goals incorporate suggestions generated from approximately 100 persons involved in Indian education. The usefulness of these goals, their effectiveness, and their ultimate impact await future analysis.

There is some evidence that developmental efforts were making some significant gains. A progress report of the Indian Education Act of 1972 revealed that: (1) projects seem to be gaining in community support; (2) there is strong evidence of project effectiveness; and, most significantly, (3) communication problems between school administrations and communities indicate a need for standardization of terminology (The Indian Education Act of 1972: Report of Progress for the Second Year of the Program, 1975).

Prior to the release of the above federal reports, staff scientists at the Battelle Memorial Institute in Columbus, Ohio, prepared a 12-step plan for implementing a humanistic management strategy at local community colleges (Project Usher, 1973). The plan spelled out procedures for involving professionals, faculty, administration, students, board members, and representatives of the local community in decisions affecting the educational needs of communities. These procedures, outlined in meticulous detail, are directly relevant to efforts to achieve Indian control of schools.

Battelle also released a similar program aimed at local school districts (Project Share, 1974). Both reports were released before the federal reports discussed above; however, given the significance and value of the Battelle reports, one can only wonder why they were not mentioned or referenced in the government documents just described.

Similar help was provided by Stout and Pratt (1971), who discussed a workable format that a local Indian tribe could adopt to assist school board members in structuring local control efforts.

There is a definite need for such management and organizational guidelines to assist communities in assuming control of local schools. Necessary changes in curriculum, improvements in teacher training, participation of community members, and more student involvement cannot be achieved within traditional and existing administrative strategies. Furthermore, it is not enough to change just one aspect of the present administrative structure. Each process within the institution requires change--total movement is necessary for efforts to be successful. Recommendations for bringing about total system improvements were made to Congress in 1972 by the Government Accounting Office (Opportunity to Improve Indian Education in Schools Operated by the BIA, 1972). Nevertheless, many areas are still lagging behind.

Among the essential ingredients for realizing self-determination goals are the personal leadership qualities of potential community educational leaders. Identification of potential leaders and development of their skills are weak links in self-determination efforts, and there is an urgent need for more research and development in this area. Four articles address issues related to this element. Gemberling (1970) studied school experiences, cultural backgrounds, and future goals of Indian high school graduates from the Pacific Northwest (i.e., Alaska) and Upper Midwest (i.e., South Dakota) geocultural regions. She concluded that students with leadership aspirations should be involved in programs that affect future development of their communities and should be encouraged to continue their education in order to develop useful skills. She included an extensive discussion of procedures for implementing her recommendations.

In a related study, Lassey and Williams (1971) studied leaders' characteristics and their attitudes toward resource development programs. Of immediate importance is their finding that informal procedures exist within Indian communities for identifying persons with leadership qualities. The study did not elaborate on these procedures, but rather discussed those who had been identified as leaders in terms of their knowledge concerning future development of local Indian areas (i.e., the Fort Peck Reservation area).

In 1974, the BIA Indian Education Resources Center in Albuquerque, New Mexico, developed a handbook to help potential and existing Indian school board members become educational leaders (BIA School Board Handbook, 1974). Although the handbook is a worthy undertaking--especially in view of the fact that it was begun in 1968--there are several problems with it. First, because it focuses on the cultural milieu of the Southwest, it is of little value to other Indian communities. Moreover, it follows a "rules-of-order" approach and is laid out in a step-by-step format, with no mention of the dynamics of leadership development. It therefore leaves potential users with the erroneous impression that, by simply following the guidelines, they could emerge as leaders.

Antell and Lynch (1973) compiled the proceedings of a National Conference on Indian Educational Leadership. The 72-page document discusses conference themes, provides summaries of dialogues, and presents recommendations. It identifies the need both for more informed Indian educators and for more programs to improve the skills of potential leaders.

Currently, a number of programs are under way to identify potential Indian leaders and to train them for leadership roles in Indian education (Bryde, 1974), and many Indians have received advanced degrees from major academic institutions (e.g., Harvard, Pennsylvania State, Minnesota, South Dakota, Oklahoma, New Mexico, Arizona State, etc.). Nevertheless, leadership training is but one area that needs development. Another area in which research is required is knowledge concerning what is specifically required of administrators of Indian-controlled schools, so that persons with the required leadership skills can be identified. The existing information in this area is somewhat mixed.

In separate studies, Billison (1972) and Cunningham (1973) examined attitudes and perceptions of a sample of administrators of Indian schools. Billison looked at the perceptions of administrators concerning their role and the role of the school in the education of Indian children. His survey of 52 administrators in eight states concluded that:

- Administrators were more concerned with their personal economic and professional advancement than with meeting local educational needs.
- One-third of the respondents did not perceive Indian participation in school policy as being important.
- The majority of the respondents did perceive a need for some changes in Indian education.
- Fifty-four percent of the respondents considered assimilation to be the goal of Indian education, while 46 percent favored bicultural programs.

The basic recommendations of this study stressed the importance of selecting administrators on the basis of (1) their understanding of and willingness to participate in the local culture, and (2) their desire to meet local educational needs.

Cunningham (1975) surveyed 391 BIA administrators and teachers from 29 Indian communities to determine their level of acceptance of the community education concept. His results indicated that not all were in favor of this concept.

Given the results of the Billison and Cunningham studies, it is no small wonder that certain communities are having difficulties assuming control of local schools. It would appear, however, that certain reservations have an inside edge on nonreservation Indian communities. The fact that they form both a social and a geographic unit makes it easier for them to staff school boards and administrative positions with tribal members. Dodge (1972) found that Navajos had a distinct head start in this respect. Her survey of Navajo school board members in federally operated schools indicates that they tend to base their decisions on current tribal policy and local interests rather than on federal policy.

SUMMARY AND CONCLUSIONS

In the literature, administration of Indian schools is discussed primarily in the context of current policies concerning Indian self-determination and Indian control of local schools. A number of issues are raised concerning (1) the theory behind these concepts, (2) procedures for putting policies into immediate action, (3) the need for improved understanding of community and tribal responsibilities through improved communication, and (4) the need for communities to feel as though they are a part of control efforts. In addition, management and organizational plans are reviewed. However, there is a lack of data concerning the effectiveness of these plans in bringing about community participation. Finally, the development, identification, and training of Indian educational leaders are discussed, and criteria are presented for selecting administrators of

Indian schools--especially for those schools that are federally funded.

Some of the literature focused on issues and developments of the Southwest and Upper Midwest geocultural regions. On the whole, however, the literature tended to focus on the issues as they affect Indian education in general.

Most of the information reviewed in this section is based on commentary supported with experiential data. The few research studies that were included employed typical survey research methodology to assess conditions, attitudes, and general reactions to program developments. The sampling plans, methodologies, and survey strategies used in these studies appear reasonable and in keeping with minimal research and evaluation standards. No evidence of controlled experimental research was found in the literature review, which perhaps says something about the youthfulness of the field.

INSTRUCTION

Materials reviewed in the category of instruction include a broad array of articles related to two basic areas: (1) philosophical assumptions underlying instructional methods for Indian education; and (2) attitudes, recruitment, and retention of teachers, as well as retraining of teachers to improve their functioning both in the multicultural classroom and in the reservation environment.

ATTITUDES

The attitudes and characteristics of teachers of American Indian students have been the subject of a small number of studies; these studies have attempted to identify relationships between teacher traits and student behaviors. The most extensive study of this type was conducted just prior to 1970 as part of the National Study of American Indian Education (Havighurst, 1970). A diverse methodology was used, which included interviews, observations, group discussions, and questionnaires. Over 600 teachers were involved in the study. It was found that teachers in schools with a preponderance of Indian children were competent, positive in their attitudes, and middle-of-the-road both in their attitudes concerning assimilation of Indians into white culture and in the climate of authority/permissiveness they created in their classrooms. BIA teachers were found to be older, more experienced, less dissatisfied with their general situation, and less susceptible to teacher turnover than urban teachers. Few inferior teachers, as evaluated by undescribed measures, were found in any of the areas studied. In terms of general philosophy of education, the schools were identified as being more Anglo-oriented than were the actual teachers working in the school systems, especially at the secondary level.

A related study (Hjelmseth, 1972) examined the attitudes that elementary school teachers in Montana public schools held toward Indian students. The Purdue Master Attitudes Scales and the Minnesota Teacher Attitude Inventory were administered to a sample of 95 elementary teachers from four public elementary schools on Montana Indian reservations. Major findings were: (1) the more highly educated the teachers were, the more positive their attitudes were toward Indian students, as measured by the MTAI; and (2) primary teachers were found to have more positive attitudes toward the students than intermediate and upper-grade teachers, as measured by the MTAI.

In general, the focus of the small amount of research that has been done on teacher attitudes has been primarily on non-Indian teachers of Indian students. Sullivan (1973), however, studied Native American personnel enrolled in a one-year institute in preparation for service as aides in classrooms serving handicapped Native American students. The study measured the changes in knowledge and attitudes toward the mentally handicapped that occurred as a result of the institute. The sample in this study included 42 participants representing 11 tribes. Effects of the program were analyzed using a knowledge test and two attitudinal measures administered during different phases of the program. The findings indicated both a significant gain in knowledge about the mentally handicapped and a significant positive attitude change, as measured by a semantic differential procedure developed specifically for the study. Both the gains in knowledge and the positive attitude change were retained in follow-up measures after the completion of the program.

Because of the obvious importance of teacher attitudes toward Indian students, there is a need for more research in this area. Wax and Walker (1970) offered a number of recommendations for future research, including:

- A study of teacher subculture in schools where teachers of Indian students live in a distinct enclave. Such a study should focus on characteristic attitudes of teachers towards Indians generally and Indian pupils particularly, and should determine the daily experiences and interactions that maintain and strengthen these attitudes.

- A study of social situations of teachers of Indian students in an integrated school in a small town or city. Such a study should emphasize both the attitudes of the teachers and their social interaction in the community at large.

- A study of attitudes that supervisory personnel in penal reform institutions hold toward Indian culture in general and toward Indian inmates in particular.

- A study of the attitudes of teachers toward Indian students in urban situations where Indian children are a small minority among other minorities.

The authors presented clearly defined and well-organized guidelines for continued research on attitudes towards Indians. They stressed that most conclusions have been drawn without the benefit of either Indian or non-Indian control groups, and that, consequently, the conclusions have been useful only as crude attempts to define the problem.

TEACHER TURNOVER AND RETENTION

A few studies have attempted to examine the factors involved in teacher turnover and retention in Indian education. Letchworth (1972) investigated the factors that differentiated between first-year teachers who remain for a second year and those who resign after one year of employment with the BIA. Samples consisted of 78 teachers in New Mexico and 49 teachers in South Dakota. Data were collected primarily through structured interviews and questionnaires. The analysis of these data attempted to isolate items that discriminated between teachers who resigned and remained. The general findings included: (1) a separation rate of

36 percent for BIA teachers; (2) higher employment termination rates among those teachers with higher incongruency in their work environment; and (3) a relationship between termination and dominant career patterns.

Garrison (1971) conducted a more thorough study of the relationship of teacher turnover rates to selected personal factors and teachers' perceptions of employment conditions. Results based on usable survey returns from 356 of the sample of 518 first-year teachers in BIA schools indicated that:

- Age was a significant factor, with those under 30 terminating at a higher rate than those over 30.
- Female teachers terminated at a higher rate than did male teachers.
- In terms of entry grade, the highest termination rate was for GS-7; the next highest for GS-9; and the lowest for GS-11.
- Teachers with negative perceptions of the environment terminated at a higher rate than did those with positive perceptions.
- There was no significant difference between those who terminated and those who remained with respect to any of the following factors: marital status; ethnic origin; number of school-age children in the family; years of teaching experience; assignment in major field; size of home community; regional origin; method of referral; size of school to which they were assigned; remoteness of the school's location; employment of the spouse; or positive or negative perceptions concerning their work orientation, working conditions, supervision, school assignment, and living conditions.

IMPROVEMENT OF INSTRUCTION QUALITY

In response to the difficulties that many teachers, administrators, and aides experience in teaching Indian children, there have been some attempts to alleviate the problems through such methods as cross-cultural communication workshops. Kozoll and Heneveld (1971) conducted such a workshop, placing secondary-level Indian students in teaching positions. The Indian student-teachers described specific aspects of contemporary Indian language, customs, and values, and discussed problems faced by Indians both in and out of the school environment. Of the participants who responded to a postworkshop questionnaire, some 79 percent indicated that having Indian students as teachers was an effective way to learn about staff-student roles and relationships, as well as to develop greater empathy for Indian students. However, the subjective explorations of Indian life that were presented generated negative responses, since participants saw them as attacking what they felt were areas of their own competence. Older white participants were particularly unable to merge the information gained from the language aspect with the cultural observations that students provided in other parts of the workshop. The workshop was an innovative example of attempts at improving Indian education through cross-cultural communication; however, the extent to which its findings can be generalized is limited, due to both the small sample of participants and certain assumptions about adolescent Indian students that were underlying the workshop. Assumptions about aspects of the Indian student's personality and character that can affect teacher-student relationships have also been noted by others (Dozier, 1972).

TEACHER QUALIFICATIONS

Basic to the goals of quality education for Indian students are the standards that are used to determine the qualifications of both administrators and teachers. Yaz (1973) asserts that the total spectrum of certification requirements must be reevaluated and redesigned within the context of Indian education. Placing his emphasis on manpower needs, which in turn are based on economic factors, Yaz saw a need for Indian teachers, technicians, skilled laborers, and social scientists. In this way, Indians can be educated by Indians in an atmosphere of positive self-identity, self-confidence, and self-responsibility. Yaz contends that, without education, self-determination will ultimately fail--even though businesses and industries have been started on reservations. He sees one method of improving opportunities as being the coordination of manpower, economy, and education to bring about the sense of independence that underlies self-determination.

Part of the solution to the manpower problem can be achieved through improved delivery of educational services (Jamison and Ball, 1972). Among the innovative means for accomplishing this goal are computer-assisted systems (Holzmueller, 1974). Unfortunately, there has been little evaluation of the role of these and other educational technologies in improving Indian education.

A major concern of Indian educational philosophy is the orientation of non-Indian teachers to Indian cultural factors, as a positive orientation in this regard has been found to be an important factor in effective performance. Numerous attempts have been made to increase teachers' consciousness of the special educational needs of Indian children. Kalectaca (1974) discussed the competencies needed for teaching culturally different Indian children. He identified the general competencies that enable the teacher to gain community support and to maneuver within the student's environment, as well as specific competencies in the areas of instruction, community relationships, and student-teacher relationships. He also proposed a list of the attitudes necessary for teaching in a multicultural society. These include recognition of the universal human needs of cultures, understanding of cultural values and attitudes of students, and student appreciation of human diversity. Similarly, Rhodes (1973) described cultural values and taboos on the Hopi reservation, listing various concerns and sensitive areas that teachers should be aware of as they develop their instruction methods.

A related issue is the climate in which the education of Indian youth is carried out. Antes (1972) found that the instructional climate established by the teacher can affect the aspirational levels of Indian youth. Unfortunately, the methods used by Antes to reach his conclusions leave the reader with some doubt as to their validity. Moreover, he fails to specify how a postive instructional climate can be achieved. It could be, as Klitza (1972) has suggested, that the combination of an informal atmosphere and a teacher who has a high interest in native youth is one important aspect of a positive instructional climate. The research issue is imaginative, but, unlike the research just described, it requires a rigorous methodology and control if the conclusions are to have any validity.

Some attempts have been made to correct deficiencies in the preparation of teachers of Indian children. Some of the suggestions that have been made have included: (1) retraining existing staff; (2) cooperating with colleges of education to help prospective teachers learn enough of Indian culture and language to deal effectively with Indian children; and (3) accepting as teaching candidates only people who are native to the area, familiar with the language and culture, and accustomed to the isolation and circumstances involved in living and teaching on a reservation. Concerns about deficiencies in teacher preparation have also been voiced by other authors, but their remarks typically have been based on observations and personal commentary rather than on systematic investigation of the problem (e.g., Redbird-Selow and Selow, 1972).

One method that has been used to help put together an instructional philosophy for Indian education has been to develop guidelines and handbooks for the recruitment of support staff, such as teacher aides (State of Washington, 1970). For example, the Center for the Study of Migrant and

Indian Education produced a handbook for the recruitment, selection, preparation, and utilization of teacher aides within Washington's schools. Specific topics covered in the handbook included: (1) the rationale for employing teacher aides; (2) goals of teacher aide training; (3) needs of migrant and Indian children; and (4) cultural differences of migrant and Indian children. Implicit in such attempts is the assumption that Indian children's educational needs are fully known--an unwarranted assumption in light of the paucity of research on the topic.

Burger (1968) discussed the use of a manual in cultural sensitivity. This manual includes techniques and suggestions for improving cross-cultural teaching effectiveness. The approach taken in the manual makes it more useful in multicultural classroom settings than in classes composed of only Indian students; however, it has some applicability in settings where there are just Indian students, as well. The bulk of the manual consists of a thorough review of the literature on the subject and an extensive elaboration of different Indian cultural values. Burger presented convincing arguments for the need to make instructional techniques serve a variety of cultural orientations. Unfortunately, he gave only a few examples for orienting instructional techniques in this direction, leaving interested teachers to rely heavily on their ingenuity and creativity. Although the manual is somewhat dated, it still contains some useful information. It would be helpful, however, if updated versions were developed. Such versions should be appropriate for use in a variety of geocultural settings.

INSTRUCTIONAL METHODS

Several aspects of the subject of instructional methods are dealt with in the literature. One area of special concern is the topic of bilingualism--in particular, the teaching of English as a second language. Marland (1971) specifically pointed out the need for the development of a multilingual, cross-cultural approach to teaching. Zintz (1971) discussed the implications of bilingual education for improving students' multicultural sensitivity. He stressed the need for continuous alertness on the part of teachers to differences in languages, values, and customs, and emphasized the importance of understanding the student as a real person. Describing how the bilingual-bicultural educational programs encompass all aspects of the learning process, he pointed out that they involve both the acquisition of the concepts and skills of two languages and the attainment of a postive self-image through the understanding of the values of one's own culture. Ney (1971) echoed Zintz, stressing the need for a realistic analysis of the student's language capability so that language-learning problems can be recognized and solved.

There have been some problems involved in the teaching of English as a second language, however. Sometimes such programs prove to be unsatisfactory due to both the lack of properly trained teachers and a tendency to thrust too much upon the child too fast (Harrison and Wilkinson, 1973). In response to this problem, tutorial systems have been developed in which bilingual, upper-grade elementary school children are used as tutors for kindergarten and first-grade Indian children. Phases of the program include identification of the critical vocabulary, diagnostic testing, development of training materials, selection and training of bilingual student tutors, program implementation, and post-assessment of the program.

The teaching of reading is another area of concern. Fifeld and Farmer (1976) used untrained teacher aides to tutor Navajo Indian children who had poor reading skills. A series of pretutorial intervention measures were obtained on reading comprehension, vocabulary, and achievement. The analysis of the outcome data after seven months indicated slight improvements for the experimental group (i.e., those children who received tutorial assistance). In addition, it was noted that the project children became more animated and eager to learn, and that they developed increased self-confidence, which enhanced their social interaction skills. Fifeld and Farmer suggested that aides provide additional options in remedial instruction, and that they are particularly effective because of their cultural background.

In a slightly different context, Parker and Zanger (1974) described a tutorial program used among Winnebago youth in an attempt to reduce racism in local schools. After discussing the problems of the local community, they concluded that the only effective way to resolve racial problems was to convince Indian parents of the importance of applying pressure on teachers and of scrutinizing the content of instructional practices and teacher biases. To help these efforts, they set up a special tutorial program, providing a learning environment that satisfied both the personal and cultural needs of Winnebago children.

Although a number of specific teacher aide programs exist in several schools serving Indian education (e.g., South Dakota, New Mexico, Arizona, and Oklahoma), they have not yet been evaluated in the literature. It is assumed that this situation is due to publication lag, and that the results will eventually appear in published form.

The attitudes and values that the Indian child brings to the educational environment--and the methods that are used to respond to these characteristics--also are of critical concern for instructional philosophy. For example, some have attributed Indian children's problems of learning to read to the fact that these children basically are not competitive individuals and thus cannot understand the expectations of the traditional classroom. Because Indian children are involved in being rather than in becoming, they do not respond to motives such as seeing their education as preparation for the future (Rich, 1973). This observation suggests that those involved in teaching reading to Indian children should:

- Identify the basic premises of Indian culture that require an adjustment in the learning setting.
- Revise teaching strategies, making use of those that are applicable to the special instructional problems represented by Indian youth.
- Recognize individual differences among Indian students as well as collective differences between them and majority groups.
- Help Indian children to move toward the ultimate goals of self-reliance and self-direction.

TEACHING IN RURAL AREAS

The process of becoming a teacher under the rustic conditions and culturally different environments found among Native Americans and Alaska Natives has been the subject of several recent articles. Barnhardt (1973) described the conceptual evolution of a four-year experimental program for training Alaska Native teachers in rural elementary schools, emphasizing the unique cultural aspects of the program environment. He concluded that it is difficult to be both a Native and a teacher, since becoming a more effective teacher limits the ability to maintain one's cultural status. There is some question, however, as to whether the program was training teachers in the traditional sense: the feedback from the participants indicated strong feelings of being general practitioners rather than teaching specialists. Barnhardt emphasized the need for a high tolerance for ambiguity on the part of the teachers involved in the project and observed the apparent difficulty, especially among the nonnatives involved, of coping with uncertainty--both in the unstructured programs and in the physical surroundings.

Similarly, Cline (1974) has examined the development of factions in an Alaskan rural village and the subsequent impact of these factions upon a series of teachers. Since the factions serve as social and political mechanisms for communicating the wishes of the group, their informal power in local decision-making is clearly significant. Cline emphasized the fact that an intercultural teacher must have an understanding of factionalism if he or she is to be accepted in the village. Describing the role expectations of villagers and the roles that the teacher must assume in order to survive in the village scene, he identified both the political attributes of the teaching profession in the village and the necessity for the teacher to form an alliance with one of the factions.

CHARACTERISTICS OF EFFECTIVE TEACHERS

There has also been some attention to the characteristics of effective teachers of Alaska Natives and the methods most effective in the classroom. Kleinfeld (1971) described instructional strategies for new teachers entering the Alaskan cross-cultural classroom. Her suggestions included:

- Personalism--experimenting with ways to harmonize personal teaching style with students' learning styles.
- Competitiveness--devising teaching methods to cope with passive students.
- Joking--using the Native method of correction.
- Project-reward-work rhythm--assigning concentrated work followed by material rewards and relaxation.
- Observational learning--using image-based instruction.
- Village-based anchoring ideas--relating instructional materials to students' village experiences.
- Parental involvement--informing parents about the why's and how's of the methods used.

Fisher and Sellens (1974) made similar suggestions in their instructional guide, designed for elementary/secondary teachers working either with segregated classes of Alaska Natives or with integrated classes in urban or rural areas.

Kleinfeld (1972) conducted a study to analyze effective and ineffective teachers in terms of their behavior in the classroom, rather than in terms of their personalities or attitudes. Kleinfeld suggested that there are two fundamental characteristics that distinguish effective teachers of Indian and Eskimo students from ineffective ones:

- A high level of personal warmth, especially warmth communicated nonverbally through facial expression, body distance, and touch.
- A high level of active demanding in the classroom, expressed as an aspect of the teacher's personal concern for the student rather than as a concern for subject matter.

This study also suggests the need for preservice and inservice training, to help teachers acquire the type of interpersonal behavior that is most effective with Indian and Eskimo students.

In another study, Kleinfeld (1975) developed an elaborate theoretical model for identifying the psychological characteristics of ineffective and effective teachers of rural Athabascan and Eskimo students. In the construction of this model, Kleinfeld engaged in a number of procedures, including: (1) review of literature on teacher effectiveness; (2) observation of teachers in boarding schools and in five integrated urban high schools; (3) interviews with teachers; (4) solicitation and analysis of student papers; and (5) analyses of classroom behavior. From the results of her highly controlled study, Kleinfeld concluded that what differentiates effective cross-cultural teachers from the ineffective ones is not their ethnic-group membership, but their instructional style. Suggesting that a warm, demanding style tends to elicit participation on a highly intellectual level, Kleinfeld recommended two approaches to increase the number of effective teachers: (1) teach the style directly to teachers in preservice/in-service training, and (2) in selecting teachers for cross-cultural classrooms, choose those who "naturally" tend to teach in this manner.

ALTERNATIVE INSTRUCTIONAL METHODS AND PROGRAMS

Attempts to use innovative instructional strategies in Indian education have been accompanied by a number of difficulties. Blackburn (1972) described the problems encountered at the Rough Rock Demonstration School. These included (1) a lack of community commitment to school goals (e.g., opposition of traditional community members to teaching Navajo culture); (2) lack of a well-designed Navajo language program (e.g., Navajo teachers were not trained to teach in Navajo); (3) interference of community politics in hiring practices; and (4) lack of planning with respect to parent involvement in classes. On the other hand, the program had a number of strong points: it spread economic benefits around the community; it allowed for flexibility in staffing, due to lack of teacher contracts; and it produced a warm, unanxious school atmosphere. Since the Rough Rock Demonstration School had been operating for only two years at the time Blackburn described it, his account should not be used to draw conclusions about its current status as an innovative Indian education demonstration school.

There has been little empirical research to balance the rhetoric that is all too common in the area of instructional philosophies and methods for Indian education. However, a few studies have focused on attempts to evaluate and compare the effectiveness of different instructional strategies. Gurber (1971) described a study conducted in connection with the development of an innovative remedial education program for Southwestern Indian tribes. In this study, 65 Navajo and 75 Pueblo first-graders were administered the Illinois Test of Psycho-Linguistic Ability, the Peabody Picture

Vocabulary Test, and the Preschool Inventory. The purpose of the study was to measure the English language hearing vocabulary, entry skills, learning styles, environmental process characteristics, and motivation of the two groups of children. The findings indicated that the Navajos scored below the Pueblos on a general basis, and that both scored below Anglo norms on all tests. The author concluded that these results are suggestive both of cultural differences in linguistic skills and of progressive declines in academic skills among Indian children, as compared with their Anglo counterparts. Gurber suggested that the Piagetian and Skinnerian approaches to the developing child would be appropriate methods for remedying the deficits in the Indian child's education revealed by the tests. Although empirical in approach, this study has all the markings of a concept that is frequently applied to minority children and has come to be known as the "deficit hypothesis"; thus, the study is highly suspect, regardless of its results.

A few articles discuss the value of competency-based instructional programs in Indian classrooms. Wynn (1974) emphasized the need for teachers to develop a set of competencies to prepare them for teaching youth from diverse cultural backgrounds. The use of behavioral competencies in teacher preparation can be generalized to the development of instructional techniques and preparation of curricula. Wynn's commentary, however, focuses on broadly based conclusions applicable to classroom settings in which there are known cultural differences. No specific reference is made to Indian children except in an implied sense.

In a related article, Speiss and Speiss (1973) discussed the use of a version of competency-based education in a three-stage study designed to improve the academic performance of Mexican-American, Black, and Indian children. A "Reinforcement, Readiness, Requisites Program" was developed using variations of operant conditioning. The results of the study indicated that: (1) experimental subjects performed better than control subjects; (2) experimental subjects showed gains from pre- to posttest; and (3) subjects maintained performance levels when removed from the reinforcement schedule. The usefulness of this approach for Indian youth, however, is questionable; additional evidence obtained from a number of cultural settings is required before recommendations can be made.

Hielmseth and Beth (1971) developed an argument for use of a teaching and learning program that addresses individual differences among Indian students. After discussing the failures of past instructional efforts, the authors presented recommendations for use of an approach that is individualized with respect to four factors: (1) situation, (2) individual, (3) community involvement, and (4) teaching techniques. However, the authors included no suggestions for implementing this approach.

Other studies that attempted to develop an empirical basis for conclusions often have serious methodological flaws. For example, Corcoran (1970) described a study designed to find a workable curriculum and class climate for teaching reading, writing, and arithmetic in a traditional school. Although his conclusions, drawn from a sample of 230 Indian students in demonstration laboratories, appear to have some empirical basis, they actually represent the author's own opinions about the most effective instructional methods for Indian children. The relatively short period during which the individualized, programmed-instruction methods were used makes almost all of Corcoran's conclusions tentative at best.

Recently, a number of educators--including some Indian educators--have criticized the traditional teaching setting. For example, Means (1975) observed that the traditional educational climate is too structured for Indian youth and is not geared to their cultural needs. As a result of the increasing criticism of the traditional classroom setting, a separate school, complete with an instructional curriculum, was started in Minneapolis in 1971. In addition to offering conventional academic subjects (e.g., reading, math, etc.), the school stresses the local culture of the students. The effectiveness of this program is not yet known, however, as no systematic effort has been made to evaluate outcome goals.

The open school concept is another variation of changing the climate to meet student needs. Instructional methods in open classrooms tend to differ from those used in conventional settings. Hollingshead (1971) discussed the proceedings of a week-long, teacher-training workshop held in Carcho, Oklahoma. The workshop focused on innovative methods, including the open classroom concept. In her report, Hollingshead included descriptions of procedures, resource materials, and types of learning environments; evaluations of student and program progress; and suggestions for recreational and cultural trips. Her discussions and recommendations are enlightening and offer a viable alternative to existing instructional techniques.

In 1971 an open school concept for approximately 100 Indian children was started in Michigan's Sault Sainte Marie public schools. The goals of the program were: (1) to demonstrate the feasibility of an open school neighborhood concept; (2) to create closer community-school relationships; (3) to broaden affect skills; and (4) to increase mastery of psychomotor skills (Evaluation: Open Concept School for Indian Education, 1972). The preliminary report includes descriptions of rating scales, testing results, parent opinions, and evaluation outcomes from the school's first year of operation. The program was subsequently evaluated in its second and third years of operation (Open Concept for Indian Education, 1973; Prince, 1974). From the information provided in these reports, it appears that the program is meeting its objectives: significant gains were noted in a number of substantive areas. Prince (1974), in his report, gave particular emphasis to advancements made in staffing patterns, student management, early childhood education, and establishment of learning centers. However, despite these noticeable gains, Prince did find weaknesses in language arts and reading skills, as well as in staff communication. Bishop's (1975) follow-up evaluation substantiated the findings of Prince.

SUMMARY AND CONCLUSIONS

Materials pertaining to the instructional needs of Native Americans are reviewed under a broad range of topic areas. The substance of the material ranges from personal commentary, program reviews, and evaluation research to quasi-experimental studies. Most of the conclusions summarized in this section are at best tentative and are based largely on an appeal to authority rather than on empirical results.

In most cases, the educational needs of the students are implicit and have to be inferred from the content of original articles. Occasionally, authors' recommendations imply an educational need.

Although material relating to instructional needs is sketchy, some trends seem to be emerging--especially in identifying the characteristics of effective teachers of Indian youth and in development of alternative instructional programs. Clearly, however, this area merits additional attention, especially in the fields of program evaluation and applied educational research.

TEACHER TRAINING

The training of teachers who are both academically competent and culturally sensitive to the needs of students still remains a significant problem within the field of Native American education. However, an examination of the literature published since 1970 suggests an active attempt, by educators and teachers alike, to acquire the necessary skills and attitudes.

NON-INDIAN TEACHERS

It is generally believed that teachers are still unable to relate to or understand the cultural diversity of the Native American student, a characteristic that in itself creates high turnover rates and adjustment difficulties for the teachers. This incapacity to comprehend Indian historical and contemporary culture, life experience, and the Indian student's conflicts within the dominant society has resulted in an educational atmosphere that not only limits the Indian child's scholastic abilities, but also promotes negative feelings toward learning and reinforces denigrative self-concepts.

Such attitudes toward education as an outgrowth of teacher misconceptions about the child's life-style as a member of a tribal group or band were discussed in a Native American workshop for Indian and non-Indian teachers at the University of California, Davis (Otis, 1973). The workshop was to be "an initial step in teachers' awareness of the necessity to know the basic psychological and sociological factors underlying Indian culture before they could begin to understand the significance that tribal values hold for the Indian people."

Lectures were given by Indian professional artists and craftsmen, and questionnaires were administered before and after the seminar. The participants were asked what problems they felt existed for Indian students in California and what changes in teaching would provide a better education for those students. It was agreed that problem areas confronting students included:

- Language and reading difficulties.
- A lack of pride in their cultural heritage.
- An irrelevant curriculum.
- Lack of control by and encouragement from Indian parents.
- Biased and prejudiced state texts and faculty.
- A lack of knowledge of the history, culture, and values of Indians on the part of the teachers.

The study revealed not only the importance of relying on Indian leaders and parents in recognizing the educational problems facing their children, but also the areas of disagreement among Indian and non-Indian teachers with regard to specific teacher behavior. While the Indian teachers felt that non-Indian teachers tended to have a negative appraisal of Indian children, non-Indian teachers saw Indian children as having a negative self-image. Conversely, while the non-Indian teachers believed the child to be suffering from a poor home environment, the Indian teachers did not mention this as a problem of particular significance. The non-Indian teachers pointed out that white students are generally biased, but excluded themselves. However, data from other studies indicate that white teachers are just as biased as their students--in most cases, even more so, especially at the secondary level. The study indicated that what Indian teachers described as problems attributable to a lack of knowledge and responsibility on the part of the teachers themselves, the non-Indian teachers felt to be achievement or adjustment problems on the part of Indian students.

"Prejudice and the coercive assimilation policy of the federal government" were assessed by Miller (1974) to be the causes of inadequate Indian education. Within this context, he discussed the need for improved educational policies. These policies should be generated by the educational expectations and priorities defined by the Indian community itself. Such proposals should then be "processed into existing teacher training programs as viable and essential components in the teacher training process."

The inadequacies of present training programs were articulated by Sekaquaptena (1970) and Burdin (1971), especially with regard to such aspects as the "abilities of teachers to be objective in modifying their stereotyped attitudes, their lack of security due to an ignorance of Indian culture and behavior, and their ignorance as to relevant resources available to them within the local community." Both authors emphasized the need for continued research in teacher training development and for a definition of the specific skills and traits that characterize the competent Indian teacher. Sandstrom (1972), describing prevalent problems for students entering institutions of higher education, stressed the "preeminent need for developing multicultural teacher education . . . which develops a sensitivity to Native American concerns" and which may very well be "the key to the improvement of Indian education."

In response to these proposals, training programs have been organized for the purpose of obtaining:

- A working knowledge of Indian values, culture, and experience within society, and of how to deal with contemporary problems.
- An attitude of respect and concern for Indian lifestyles and for the Indian student's need to preserve them and to preserve his own unique cultural identity within the dominant non-Indian culture.
- Skills in realizing the myriad of problems facing Indians as applicants to schools, and as students striving to obtain positive school experiences.

- Teaching methods for meeting these problems with solutions compatible with the Indian students' goals and aspirations.

Means for inculcating these attitudes and skills have centered around:

- The involvement of teachers in education-related community activities by means of teacher training corps (Northern Arizona University, U.S., Department of General Acounting, 1972).
- Teacher aide training programs (Kersey, 1971).
- The development of graduate and undergraduate training programs for teachers and paraprofessionals (Nelsen, 1972; Indian Studies and Programs, 1971).
- Special seminars on Indian students for college administrators, curriculum specialists, and Indian educational leaders, aimed at developing "a sensitivity to the Indian and his culture and vital communication links between representatives of educational institutions and key individuals in Indian communities (Sandstrom, 1971; Julien, 1972).
- Reviews of curricula for training programs in terms of the knowledge base of the teacher as it relates to the Indian student's language, history, values, and culture, as well as in terms of program length and student teaching in schools with large numbers of Indian students (Cavender, 1971).
- In-field teaching internships, such as those conducted through Central Washington State College (Potter, 1971).
- Workshops conducted for the purpose of familiarizing teachers with recent teaching techniques and lesson planning (Project NECESSITIES, 1970), and for the training in specific areas (Colorado State University American Indian Adult Basic Education Teacher and Teacher Aide Training Project, 1972; Lechnyr, 1973).
- Use of Indian consultants (Colorado, 1972) and planning sessions focused on views expressed by tribal leaders, Indian educators, and Indian groups (Gonzaga University Indian Training Institute, 1971).

- Conferences for teachers on Indian education and methodology (Heywood, 1973; Alexander, 1972; Light, 1974).
- Manpower Training Programs (DHEW final report, 1972).
- Heavy emphasis upon publications in methodology for teachers (BIA newsletters) and case histories (Project NECESSITIES, 1970; Harrison, 1971).

Evaluations of such teacher training approaches have generally been unavailable; those noting success (Northern Arizona State, 1971; Potter, 1971) have excluded the reasons.

INDIAN TEACHERS

Particular attention has been devoted to the training of Native Americans as teachers and teacher aides in the education of their own people. Based on the theory that persons native to a community and trained in that community are best prepared to teach in it, several programs and models have been designed and implemented in the hope that the theory might work.

A four-year college program for Alaska Natives, the Alaska Rural Teacher Training Corps, was described and evaluated by Gartner (1974). Increasing demand for local control over Alaska's four-entity educational system (the Alaska state-operated school system, BIA schools, city schools, and borough schools) and for Native rather than white teachers demonstrated the need for the course. Course work is taken from the University of Alaska in Anchorage and Alaska Methodist University; practice teaching takes place in 10 rural Native villages. The weaknesses of the program were cited as: unrelated education courses, distant professors (Anchorage), and communication and cost problems. Program strengths, on the other hand, were identified as: the use of a cross-cultural curriculum, a community-based program, and a combination of native and nonnative peoples working together in small learning groups based on the team-leader role.

Richburg (1972) described the conceptualization and operation of a "modular organized accountability teacher training" program for 14 Indian teacher trainees at the University of Georgia. The program consists of a "careful specification of learning outcomes" emphasizing: (1) subject matter; (2) teaching strategy competencies; (3) intensive internship supervision; and (4) accountability for the academic program, the professional training, and the internship to the sponsoring agency. It is hoped that graduates will be prepared to teach secondary social studies in Indian schools as well as in other schools, and to use the local communities as a data source for social studies instruction. Special problems dealt with in the program included: (1) teacher trainee performance, (2) program support, and (3) operation of the program itself. This project revealed three major needs: more intensive support and supervision of teacher trainees, a careful specification of objectives, and provisions for the application of skills learned in the training program. A major implication is that social studies educators "can develop and implement accountability models."

The 1973-74 evaluation of the progress of Harvard University's graduate program in education for American Indians demonstrated enough success to permit the program to be continued through the 1974-75 school year; the number of students admitted rose to 13--two more than were admitted in 1973-74. Courses in the program included educational administration, social policy, educational planning, child development, curriculum development, and Native American education; students also had the option of taking courses at the Massachusetts Institute of Technology. As of June 1974, 4 of the 11 students had received master's degrees and one had received a certificate of advanced study. The program is funded jointly by the Office of Education and the BIA.

Jackson (1974) discussed four alternative approaches for providing teacher training opportunities to Navajo

Indian college students within proximity of their homes and for helping them to find jobs on the reservation. The programs discussed include a Navajo tribal teacher education program, a career opportunities program, a teacher corps, and a typical standard college program offered by Northern Arizona University in Flagstaff. The article had two purposes: (1) to give prospective Navajo teachers insight into the ways and means of obtaining the education they needed to become fully certified elementary school teachers, and (2) to encourage an increased number of Navajos to enter the teaching profession and to remain on the reservation.

In the hope that the recruitment and training of Native Americans as paraprofessionals in the school might be an opportunity to bridge the gaps between the culture, economy, and education of Native Americans and those of mainstream American children, in 1975, the Oklahoma City University developed three model programs. These programs, which are currently being implemented in area schools, are:

- The Rural Indian Education Program, sponsored by the Cherokee Nation and the Tulsa Public School District.
- The Teacher Aide Project, sponsored by the Oklahoma City University.
- The On-Site Pueblo Personnel Training Program, sponsored by the All-Indian Pueblo Council and the University of New Mexico.

The Tulsa program recruits and trains parents and other Indian adults as classroom paraprofessionals capable of undertaking very specific tasks. The Oklahoma City program moves beyond these objectives by providing university classes for its paraprofessionals and giving college credits for courses taught on-site throughout the state. The New Mexico program is the most comprehensive of the three. It is planned to encourage Indian paraprofessionals to complete a sequence of courses leading to an associate degree and to continue with advanced courses for corresponding degrees. In the Pueblo program, most instruction is conducted in the schools in which the aides work.

Leonard (1975) described the Gila River Adult Basic Education Experimental Demonstration Project for paraprofessionals. The purpose of the project is to improve the academic skills of hard-to-reach adult dropouts and to train nondegreed local residents to recruit, counsel, and teach program participants. A six-week preservice training program included "individual study prescriptions, via standardized pre- and posttesting, academic theory and practical application, recruitment and reporting procedures with an emphasis on speech and persuasive techniques, and interaction analysis." Each tutor spends one day a week in the learning center under the direction of a professional teacher-counselor and one afternoon a week in an in-service training and staff meeting, in which the tutor presents a daily log of activity and a weekly report. Evaluation is done by professionals, paraprofessionals, and participants, as well as by an independent evaluator who develops criteria, visits the sites, and makes progress reports and a year-end evaluation.

The BIA has funded two teacher aide programs for its BIA schools in Alaska (Sullivan, 1974). Since 1966, more than 80 aides have been employed in almost as many Native villages and towns. The author stressed the need for the placement of at least one of these aides in each of the area BIA schools not included in the present program. More than 200 state-operated schools, the author suggested, would also benefit from such a program. Sullivan stressed immediate consideration of a plan to expand the program by including additional steps for teacher assistants and teacher associates. For example, a two-year course could be instituted that would qualify associates to occupy professional positions upon graduation. As part of this program, assistants would be able, under supervision, to perform many specialized tasks. Under this plan, the present training structure would still continue to supply aides who perform important noninstructional functions. Gillam (1973) reported on an Indian teacher training project in secondary social science at the University of Georgia. The program, funded by the BIA from 1971 to 1973, was to train 16 Indian students as social science teachers for Indian students. The program consisted of internship teaching in two Indian schools and one public school, community involvement, and academic professional training. As of 1973, 11 of the students had completed training, 3 had failed to maintain academic standards, and 2 had left for other reasons. No follow-up has been reported on program success in the field.

TRAINING ADMINISTRATORS

Since 1970, higher education programs have focused on training administrators, both non-Indian and Indian, in the skills necessary for changing educational institutions and for actively promoting self-determination. Hale (1973) discussed the objectives of a model program to "train a cadre of research and development specialists with competencies to strengthen and institutionalize organizational assessment and program development within higher education institutions serving large numbers of Chicano and Native American students." The program, directed toward project management and articulation of curriculum objectives, content, and activities, involved faculty and administration from 17 two- and four-year "developing" institutions located throughout the Southwest. An evaluation of an academic training phase and a subsequent practicum showed that the program was useful in identifying major dimensions of such a training procedure.

The Native American Administrator Program at Pennsylvania State University (Lynch, 1973) also trains Indian students in the skills necessary to change federal, state, and local public and private institutions, in order to make them more responsive to clients. Lynch discussed two assumptions that underlie programs of this type:

- Administrative behavior, which is more complex than theory-concept development and testing, should be recognized and analyzed in the multicultural setting.
- Group solidarity is essential for creating "a critical mass for change in an institution." Trainees should be encouraged to keep cultural loyalties, to maintain their integrity, and to become involved in tasks; involvement in institutional change is the "test of the trainee's skills and value commitment."

The programs at the University of Minnesota funded by the Office of Economic Opportunity (1971) were aimed at "alleviating the shortage of administrators having Indian ancestry." In 1970, 20 applicants were admitted to graduate school and the fellowship program at the University of Minnesota. The evaluation, which was based on student retention, academic achievement, participation, postprogram plans, and attainment of degree objectives, concluded that the program was successful and should be continued. The Indian Education Administration Training Program at Pennsylvania State University, Harvard University, and the University of Minnesota, which was begun in 1970 and funded by the BIA since 1971 (Leitka, 1975), was evaluated using personal interviews, on-site visits, community opinion surveys, and program records. Areas surveyed were (1) need for such programs as compared with the availability of other programs; (2) the program's relationship to grassroots determination of educational priorities and noneducational programs; (3) professional advancement, salaries, and the social contributions of graduates; and (4) cost-effectiveness and institutional support. Students at the three universities felt that:

- The program allowed for a high degree of involvement in Indian affairs.

- The programs were successful, especially at Harvard.
- Funding was a serious problem for students.
- A program director was much needed.
- There was a need for a clear definition of the program content; e.g., Indian-oriented courses should have been made known to applicants before their entry into the program.

PARENT TRAINING COURSES

It is generally believed that Indian parents do not understand their legal rights, the kind of legal and educational information they should have access to, or how they might organize to be effective in implementing these sources for the betterment of Indian education. Title IV of the Indian Education Act of 1972 (Gress, 1972) outlines methods for organizing parent advisory committees that can provide this type of input into educational program development. The author felt that, since federal aid to Indian education has been misused and mismanaged in the past, it is essential that Parent Advisory Committees be trained to effectively utilize legislation affecting Indian education. Gress emphasized the need for parents to be acquainted with the structure of the Johnson-O'Malley Act of 1934 (JOM), Title I of the Elementary and Secondary Education Act of 1965, and Title IV of the Indian Education Act of 1972 if they are to "effectively serve as Advisory Committee members." Having attempted a variety of parent education methods, the Coalition of Indian Controlled School Boards has found that the most useful technique is to send a specialist into the home who (1) presents a historical view of the laws, (2) itemizes the areas in which parents should be involved, and (3) details the legal rights relative to educational programs and their expenditures. Gress further recommended the development of statewide Parent Advisory Committees to "plan for the use of JOM funds and to produce a legislative manual on Indian education."

Misiaszek (1974) also detailed the need for urban parent training programs under the Title IV Act, since (1) no one school usually serves all Indians; (2) a number of Indian parents cannot afford the expense of traveling across town to meetings; (3) effort is needed on the part of school officials to convince parents that their input is needed; (4) school personnel will be ineffective unless they work on an equal basis with Indian parents in program development; (5) constructive relationships must be built upon mutual understanding between parents and educators; and (6) factional groups in urban communities range from very conservative to militant. Misiaszek suggested that repeated clarification of Title IV regulations, explanation of the valuable relationship between short- and long-range goals, the art of teaching as it relates to different childrearing practices, and the basic functions of a school should be specific areas of concern in training programs. She also recommended that alleviation of high turnover rates be a major emphasis of rural training projects.

The assessment of training projects was outlined by Stout (1972) in his summary report of the Navajo Community School Board Training Project, a program involving more than 300 Navajo adults who discuss parent-school involvement at five reservation locations eight times a year. Stout described the sessions as helping participants to (1) improve relationships, (2) recognize limitations, and (3) see the value of both change and tradition in curriculum design and development.

Parent training projects have similarly been started in Alaska. Coverdale (1972) studied the needs of Alaska native lay advisory school board members in rural communities. Personal interviews with 80 board members in 17 Eskimo and Indian village communities indicated that instruction was needed in such areas as: (1) the state's responsibility in education, including the legislature and the state school board; (2) the responsibilities of rural administrations;

(3) parliamentary procedure; (4) board responsibilities to school administrations; (5) finance; (6) selection of school personnel; (7) knowledge of contracts, tenure, and firing policies; (8) curriculum changes; and (9) the organization of school support. Coverdale concluded that the group interviewed was not prepared to participate in the operation and control of rural public schools without a proper knowledge of school organization; the participants, however, wished to receive training in administration policy and to participate in the governing of the schools by carrying authority as board members. As a result of the study, a training manual for rural advisory school boards was developed by the Alaska state-operated school system and the Center for Northern Educational Research (Wolfe, 1974). Based on the belief that "all rural Alaskan schools need to be organized on a local and regional basis immediately," the manual offers information on: organization and administration; state versus federal roles; procedures of the legislature; the role of the state board of education, together with other state responsibilities; school board organization, policy, and responsibility; and other board concerns such as budgeting and upkeep of facilities.

SUMMARY AND CONCLUSIONS

Materials written with regard to the training of Indian teachers emphasize: (1) the inability of teachers to understand the cultural backgrounds and subsequent achievement levels of Indian students, and (2) the methods for changing their attitudes and for providing teachers with the qualifications necessary to improve the scholastic and social experiences of Native Americans. In-service field internships and special seminars with Indian consultants appear to be the dominant approach to solving this problem. Attention has also been given to the establishment of training programs for Native Americans themselves. However, because follow-up analyses of these programs have not been made, little is known about their long-term effectiveness, and continued research is recommended.

CURRICULUM

The National Study of American Indian Education (Fuchs, 1970) revealed that parents, students, and teachers shared a general consensus that the school's most important role is to "prepare Indian students for employment in the dominant economy, and for successful lives in the socio-cultural mainstream." There was virtually "no quarrel with the principle that the curriculum for Indian youth should include the best that is provided for non-Indian youth." Since the recognition of that principle by Indian parents and students alike, much literature has been published on the development of curricula that would not only provide the "best" for Indian youth on an academic level but would also make them feel comfortable in a culturally diverse learning environment.

Most of the literature is rhetorical and suggestive in nature, consisting of essays discussing the objectives of and recommendations for cultural studies. Nevertheless, programs and specific courses have been implemented on an experimental basis, and evaluations of existing projects have been conducted. However, the controversy over whether or not to include culturally based curricula still remains among educators and Indian groups alike. This controversy exists even in light of Birchard's indication in 1970 that most teachers, students, parents, and community leaders favored the inclusion of some aspects of tribal and/or Indian history and culture within school curricula.

CONTROVERSY OVER CULTURAL STUDIES PROGRAMS

In an article published in 1974 in which the introduction of tribal culture studies was discussed, Bayne stressed the fact that "such introduction is characterized by a belief that this will somehow preserve native cultures or will enable Indian children to integrate their lives in the best of both worlds." However, as Bayne pointed out, the study of Native cultures that offer alternative values to those of "competitive, urban" America makes the success of any such curriculum orientation unlikely.

Bayne presented two specific reasons for the inevitable failure of Indian studies. First, he contended that the "form of an educational system is also the vehicle for perpetuating the values of the culture operating the system. Without radical alteration of the American process, the inclusion of Indian cultural materials in the context of curricula seriously perverts the meaning of the materials within the context of Native culture." Since Indian education itself has never been "formal and compartmentalized" and "job-oriented," but rather informal and "human-oriented," Indians can never successfully identify with an educational system that "by its very nature inculcates job-values," not Native American values. Second, he saw the source of an Indian child's identity as resting with his community, a "distinctive interaction style which results in the formation of a personality uniquely Indian." The inclusion of arts, crafts, history, legend, and myth--only a small part of overall Indian culture--will not, according to Bayne, affect Indian children significantly. It is the community itself, rather than the destruction of the community kinship system, that will "determine the maintenance of Indian culture among children of that culture."

Although Bayne promoted a pessimistic attitude toward cultural programs, he did emphasize that certain goals can be attained by the inclusion of cultural materials. The inclusion of such materials, as an expression of the school's official policy to sanction Indian culture, can aid in alleviating feelings of worthlessness and self-deprecation among Indian students. Further suggestions included (1) excellent in-service training for teachers, and (2) less suspicion on the part of Indian parents toward schools that attempt to promote respect for tribal backgrounds by including cultural courses, and toward teachers who appear more tolerant of their children's values. Bayne concluded, however, that "it is not the goal of schools to maintain the uniqueness and differences of the Indian, but that of Indian communities themselves."

In contrast to Bayne's thesis, Talbot (1974) proposed the establishment of a Native American studies program on the university level, pointing out that what is considered American is actually European: "Important traditions in the U.S. are Native American in origin and are only mistakenly considered to be 'Anglo' in background." Inclusion of Native American courses would provide the accurate perspective so necessary in the development of both Indian education and cultural awareness in the white population.

Whitehead (1973, 1974) discussed Native American studies both in terms of self-awareness and as an exercise in self-determination. The development of such programs would provide Indian students with the opportunity for bicultural participation in a pluralistic society.

In a similar vein, Sharpes (1974) argued for the use of culturally oriented materials in the classroom to stimulate personal motivation and interest in learning for Indian students. The author also indicated that the development of social responsibility and the ability to work successfully in groups resulted from courses approved by tribal and community leaders.

The significance of Indian culture within the context of contemporary national developments, such as urbanism, self-determination, cultural pluralism, tribalism, and institutional relationships, was discussed by Warren (1972, 1973), who presented the need for cultural studies to understand the continuity of culture in the midst of change. History and literature projects must be developed using community knowledge and expertise. Such studies can, according to Warren, create a way by which the "Indian community itself can evaluate those elements of tradition that have provided the alternatives for maintaining cultural viability. . . . An understanding of the universal values enduring in Indian life and a recognition of the special resources of the Indian community will emerge."

The Programs

Within the fabric of such controversy, programs have been developed which seek to help the Indian student learn how to cope effectively with his role in two contrasting worlds. This learning to "cope" calls for an ideal curriculum--one that offers not only courses that would increase student abilities but also those that would enhance their self-concept through the study of Indian culture. Such curricula would also, it is believed, give the student the technical expertise needed for participation in an economically competitive society.

The number of actual programs given since 1970 is rather sparse, since most of the projects are available either in an outline format or through the descriptions in teachers' manuals for liberal arts, language, and social and physical science courses.

One Feather (1972) presented a course description designed for ninth-grade Oglala Sioux students on the Pine Ridge Indian Reservation in South Dakota. The history and culture of the Oglala People on the reservation are studied using materials collected by Sioux Oglala elders. The course is designed "to help students improve their self-image, to provide them with new skills and experiences, and to give them an opportunity to acquire factual knowledge."

In 1973, The Evergreen State College, in Washington, published a university curriculum design for Native Americans which involved a "total learning system, where the Native relates himself to the land, WORK, exchange and the OTHER" through art, music, dance, and problem solving in a democratic society.

Project HEED (Heed Ethnic Educational Depolarization) involves approximately 1,350 elementary school children in over 60 classrooms throughout Arizona. Since its introduction in 1972, the program has been characterized by its emphasis on:

- Improvement in reading achievement.
- Emotional behavior of teachers.
- Motivation of students by means of an open curriculum.
- Special programs relevant to student needs.
- Involvement of parents in school and community relations.
- Cultural awareness.

Specific target sites of the project have varied in the past five years, as have the evaluated levels of achievement in reading, language, and self-concept improvement.

A special curriculum designed by Project NECESSITIES in 1970 for the study of social science by 10th-12th graders was also published. The program involves team-teaching on a rotating basis, and a two-week trial period, after which students may choose whether they want to stay in the course or not. Units offered include: communication skills; language analysis; concept formation; a discussion of a novel; the effects of alcohol; practical economics; independent projects; and the design of a utopian school system.

Program Evaluations

Evaluations of curriculum programs in existence are also indicative of the trends in current development. A feasibility survey of a reading and language program for primary grade Indian students in the Pacific Northwest was conducted by Wright in 1971. An interview was given and a questionnaire was administered to a stratified sample of Indian leaders, parents, and students (from the two largest and two smallest populated reservations in Idaho, Montana, Oregon, and Washington), as well as to state superintendents of public instruction, local school administrators, and teachers from school districts near the designated reservations. From the results of the survey, Wright concluded that both the Indian people and the professional educators supported the establishment of a program based on Indian history and culture; all agreed that the program was economically feasible as well as potentially effective and relevant. Comments from the Indian group indicated a strong personal need for culturally relevant materials for elementary students.

Another study, on the effectiveness of Native American programs at the university level (Leitka, 1973), demonstrated increased Indian enrollment and decreased dropout rates in comparison with rates from institutions without programs specifically designed for Native American students. Clark's study (1972) on higher education for Indians also revealed reduced student attrition rates (in fact below non-Indian percentages), although absolute correlation to the Indian program was not established.

In a 1972 analysis of Indian graduates of Pembroke State University, Thompson attempted (1) to determine level of satisfaction in training and jobs, (2) to investigate certain facets of their professional, socioeconomic status, and (3) to evaluate the business education curriculum, as perceived by Indian business education graduates. From questionnaires, a Job Description Index received from 579 Indian graduates, and 34 interviews, Thompson concluded that, generally, Pembroke graduates (1) find jobs in the area of their major, (2) pursue teaching as a career, (3) do not seek advanced degrees, (4) receive salaries lower than their nonbusiness counterparts, and (5) are not as active as nonbusiness graduates in business organizations. Female Indian graduates seem to make better job adjustments than male Indian graduates do. The study also found that the university itself was adequately preparing Indian students for employment as teachers, although graduates are not properly prepared in office machines, business communications, and in the methods of teaching business subject areas.

Whether or not Indian students must become assimilated to succeed in higher education institutions was studied by Boutwell (1974). Using a random sample of 110 students (68 percent Indian, 32 percent non-Indian) at a "large Western university with an Indian program," the study found that the Indian students were (1) partially assimilated, (2) valued education even more than their non-Indian peers, (3) enjoyed the fruits of white culture, and (4) viewed education as the key to affluence, although they admitted to greater sensitivity regarding discrimination and competition than the non-Indian sample.

In an evaluation of an elementary social studies program in BIA schools on the Navajo reservations in Arizona, Utah, and New Mexico, Parker (1972) revealed that the "BIA elementary schools serving students of the Navajo Indian Reservation were generally making very little contribution toward preparing the Navajo children for citizenship in either the Navajo culture or in the dominant Anglo culture by means of . . . the social studies curriculum of the educational staff." Moreover, ". . . only one area in the study could be construed as presenting a positive element in the education program; the physical facilities of the schools were generally substantial." The following factors of the program were seen as inadequate:

- Number of Indian teachers involved in the program.
- Classroom organization and school enrollment.
- Class loads.
- Teaching experience of teachers.
- Staff retention and teacher turnover.

- Teacher experience with disadvantaged groups.
- Academic preparation of teaching staff.
- Preservice and in-service education provided by the BIA.
- Textbooks, current periodicals, and reference materials.
- Libraries for professional staff.
- Audiovisual equipment.
- Student libraries.
- Content of the social studies course.
- Outside resources.
- Evaluations of the educational programs by teachers and other agents.

CURRICULUM DESIGN

A wide array of course proposals oriented toward cultural- and self-identity have been developed.

Art Education

The use of art as creative self-expression within the traditional Indian perception was emphasized by the Institute of American Indian Arts (Kina, 1966). Exposing students to the "aura" of Indian art gives them a total identification with their heritage on an individual level, thus generating inspiration and self-assurance. Similar credence was given to the use of art as the foundation of Indian curricula by Project Cultural Followthrough (1970) and applied in a Title I Project curriculum for Pima-Papago and Apache elementary students. An essay by New, the director of the Institute for American Indian Arts (1972), also discussed the merits of an art-centered program in "creating an environment that would be conducive to the emergence and development of young Indian artists."

Communications

Significant attention has also been given to communication between Indian and non-Indian students, particularly in the areas of (1) recognizing traditional modes of Indian speech behavior, e.g., eloquence, superior listening and retention ability, and silence (Osborn, 1972); and (2) providing courses that are extensive in their emphasis on bicultural modes of understanding (Osborn, 1974). Sorter (1975) combined both perspectives in presenting an intercultural, interdisciplinary approach, utilizing primary sources from written material on Indians. Results of the program indicated a high rate of success; there was a favorable response by teachers and students, and the students increased their ability to draw concrete conclusions from verbal statements, as well as developing an increased accuracy in historical perspective.

Legal Education

Legal education both within the confines of the Indian community and in the greater context of federal rights has been implemented in special courses by Conn (1973), who outlined in detail a course for Navajo students in customary ways of law and in Navajo common law and on aspects of a pluralistic legal environment. The rights and responsibilities of high school students under the Constitution, the state, and tribal governments are covered in a course offered by the BIA. This course seeks to develop:

- Usable knowledge concerning the students' rights and responsibilities (SRR) in both school and community.
- Skills in communication and civic responsibility that can be applied to everyday life.
- Understanding of the practical application of Constitutional rights.
- Knowledge of political principles and governmental functions in the real world of politics or tribal affairs--whichever the student desires to take part in.

- Skills useful in problem solving, decision making, and analytical thinking, including demonstrable skills of leadership in student body government and the legislative process.
- Demonstration of a significant change in attitude toward the social, political, governmental, and economic values of the environment.

Evaluation of the course, implemented in schools since 1973, pointed out such weaknesses as: (1) lack of information on school responsibility; (2) too much of an administrative orientation with little student input on policy and regulations governing the school; (3) lack of legal advice in program implementation; (4) lack of definition for SRR; (5) lack of regulations for teacher accountability; (6) overemphasis on individual rights and underemphasis on individual responsibilities; (7) exorbitant amounts of material to cover in a limited period of time; and (8) too much additional paper work for a staff who would otherwise be involved with individual students. However, a large majority favored the course itself and recommended its continuance with few changes. Special leadership training programs were also instituted both at the high school level (Patch, 1971) and by tribal education committees in an effort to improve the development and administration of reservation adult education programs (1973).

Safety Education

Safety education programs for BIA schools have been developing since 1970. The literature published has primarily consisted of manuals for use by teachers for grades K-12 (Lowry 1973, 1975). The handbooks focus on knowledge of and habits and attitudes toward safety practices in order to eliminate dangers of accidental death and injury, and emphasis upon adult responsibilities with regard to students and to the community in general. Evaluation of the Choctaw Safety Education program by the BIA in 1976 indicated that

82 percent of teachers and students questioned were using safety education, such as traffic and fire safety, within the scope of other subjects, although no explicitly written objectives for safety education were found in agency schools. Lack of funds, manuals, and organizations seemed to be the greatest obstacles to developing a safety education program. The report concluded, however, that safety education was well coordinated with the school curriculum itself, and that the number of accidents had decreased.

Vocational Education

The 1970 Study on American Indian Education indicated a need for greater attention to career opportunities and also for a central office to disseminate information on careers to both students and teachers; yet little research has been done on the adequacy of vocational programs in the literature under present review. A position paper by Purley (1970) discussed various methods that can be used in evaluating career programs. Assessment of teacher preparation and recruitment, school organizations, and the role of the community is needed. Also necessary is an evaluation of vocational programs for Indian adults. Purley also called for further research to be done on: (1) adequacy of opportunities for training and placement; (2) job behavior; (3) values; (4) motivation and competencies needed for successful entry into the "mainstream"; and (5) advancement in vocational training and employment.

Alternatives for occupational curricula at Northland Pioneer College were discussed in a 1974 planning resource document. Because 85 percent of the occupations in Navajo County do not require college baccalaureate degrees and because of the sparse population, limited resources, extreme distances between communities, and lack of a center of population, recommendations were made to: (1) establish learning centers in several communities; (2) provide the necessary information on a variety of occupations; (3) establish priorities for educational opportunities available to Navajos; and (4) offer programs in business, automotive and heavy equipment maintenance, and construction trades. The conclusions were based on existing information concerning occupational and manpower needs, white and nonwhite population distribution, and a previous career aspiration study among high school students.

A survey conducted by the Indian Education Resources Center in December 1974 to assess knowledge about the Choctaw Career Education Program and its development revealed that very few students were receiving occupational guidance. Students were "disadvantaged" when it came to choosing careers, although occupational materials were accessible to teachers. The parents who were interviewed (three were employed in academic departments within the school system) were not informed about the objectives of the career program or its relation to the total school curriculum. Basing these findings upon questionnaires administered to a relatively small sample of students, teachers, and parents within a five-school range of the Choctaw Agency, the survey indicated a need for more career information.

PROBLEMS OF BILINGUALISM

Bilingualism and Self-Esteem

Although educators have assumed a direct correlation between curricula relevant to the academic and cultural needs of Native American students and the development of improved self-concepts among these students, few studies have been conducted that either survey this hypothesis or offer evidence that greatly strengthens the assumption itself.

A dissertation study by Nixon in 1970 was designed to determine both the effects of bilingual education on the student's self-concept and the attitudes of Navajo parents toward the schools and the bilingual program in the San Juan School District. The results indicated that, although parents generally favor the role of schools as important institutions in meeting the current needs of their children, the bilingual program had no noticeable effect on student self-concept.

Pecoraro (1971), in studying the effects on students of a select series of lessons on Indian history and culture, found an improved self-image among Indian children.

Subjects, both Indian and non-Indian, were pre- and posttested on a semantic differential, an attitude scale, and a series of open sentence stems adapted or derived by the author. Special lessons had a positive effect on both groups of children with the Indian students exhibiting greater change. Pecoraro further discussed the implications of the study for curriculum design, especially with regard to "little-known aspects of the Indian contribution to our art, cultural heritage, and contemporary society."

A survey of 13 high school seniors of the Cheyenne River Sioux tribe was analyzed in a study by Fox (1971) designed to test the effects of a Native American literature course offered at Cheyenne-Eagle Butte High School. A questionnaire administered before and after the course revealed that the students read more extensively when the material included Indians; but the students "did not learn to enjoy reading more," although they realized the value of reading to learn. The study recommended that further work be done to (1) develop and use questionnaires which would "better measure attitudes toward pride and identity," and (2) determine whether the findings were statistically significant.

Scoon (1971) showed a positive correlation between low achievement scores and low English proficiency scores and feelings of "normlessness, meaninglessness, negative attitude toward school, and low expectations for the future among American Indian students." Further, he discussed motivation as the "most important variable in foreign language learning." Desire for integration into the culture of speakers of the language correlated most highly with learning success. Since Native American students are "faced with the need to integrate with speakers of English, their hopes for jobs and social advancement largely depend on their success in coping with the language and culture of the larger society." However, their particular life situation militates against any integrative motivation. The history of wrongs against Indians by whites, the prejudice that Indian students encounter, and the increasingly militant antiwhite attitude of some members of their race make positive attitudes toward integration difficult or almost impossible. Problems that are probably more related to the "culture of poverty than to ethnicity become polarized in the direction of ethnic identity. Resulting negative attitudes are directed specifically against the white culture, and the effectiveness of English proficiency may be impaired."

This relationship between self-esteem and reading proficiency was the focus of a study of fourth-grade Pima children on the Gila River Reservation (Gardner, 1972). One hundred two subjects were administered the Self-Esteem Inventory, the California Short Form Test of Mental Maturity, reading subtests of the Metropolitan Achievement Test, and the Inventory of Reading Attitude. The intent was to determine whether the self-esteem of Pima children was related to language ability; to nonlanguage ability; to total intelligence; to reading achievement in terms of age and grade expectancy; to reading achievement in terms of estimated potential; and to attitudes toward reading. The results indicated relationships between self-esteem and language ability, total intelligence as represented by age, reading achievement in terms of age and grade expectancy, reading achievement in terms of estimated potential, and, for boys, in attitudes toward reading; no relationships were found for girls, however. Relationships were also found between self-esteem and language mental age, reading achievement in terms of grade expectancy, and attitudes toward reading for the group as a whole. The results also indicated that the average scores of fourth-grade Pima children for the Self-Esteem Inventory, and quotients to represent achievement in reading related to age and grade expectancy, fall far below the standardized norms. The children fell slightly below the average range in reading achievement in terms of estimated potential, and in terms of experiential background and opportunity for learning, as reflected by scores on an intelligence measure. The study recommended a continuation of present programs to raise self-esteem levels. Also recommended was the development of culturally oriented materials and a recognition of Pima cultural attitudes, interests, and language for the purpose of influencing self-esteem and school achievement.

An analysis of the effect of the use of the Yuk dialect as the vernacular in four village school programs in the Kuskokuim district of Alaska (Harkins, 1973) demonstrated that schools utilizing the Yuk language were more advanced in reading, as measured by the SRA achievements series, than were schools just teaching English. The same schools also showed greater self-concept scores on one-half of the sections of the Yuk-modified Tennessee self-concept test. Total rapport between parents and the subject schools was also more positive as measured by a parent questionnaire.

Taylor (1973), in another study to determine the effects of cross-cultural informal educational experiences upon the self-concept of 33 Native American elementary students from five tribes, found no significant gains in self-esteem when using Gordon's How I See Myself, audio-visual media, and cultural materials for 18 weeks of informal training.

Miccosukee and Seminole Indian children were studied by Lefley in 1973 for personal and ethnic self-esteem correlations to a culture program experiment. Phase I of the experiment involved a 10-week instruction course for 34 Miccosukee children that included tribal history, legends, customs, morals, art forms, and skills, and exploration of old Miccosukee campsites. Thirty-eight Seminole children acted as the control group of the Ahfachkee Day School. Pre- and posttests were administered to the children of both groups for global self-concept, self-acceptance, and perceived parental and peer evaluation, using self-esteem scales and semantic differentials. All scales used in the experiment were either developed or modified by Indian informants, translated, back-translated, and administered in both English and Miccosukee. Phase II of the study investigated the social matrix and familial correlates in both tribes with demographic data, questionnaires assessing maternal socialization practices, child histories, attitudes toward education, and measures of maternal self-concept and Indian self-esteem. The study tentatively concluded that the culture program had some positive effect in raising self-esteem. Although self-acceptance attitudes rose significantly, no change in global self-acceptance or in Indian self-esteem was indicated. It was also surmised that "in accord with much ethnopsychological literature, acculturation appears to be accompanied by psychological stress." Overall findings of the study only partially confirmed the hypothesis that self-esteem is related to a cultural studies program.

Bilingualism and English Language Difficulties

Spolsky (1970) studied the extent of language proficiency among elementary Navajo students. The results showed that "29.8 percent of the 3,653 children . . . knew no English, 39 percent knew a little English but not enough for first grade work, 20.7 percent were equally at home in Navajo and English, 5.7 percent spoke English with a small knowledge of Navajo, and 4.8 percent spoke only English."

The following year (Spolsky, 1971), the determination revealed that "two-thirds of Navajo children begin school not knowing enough English to function in an English-speaking classroom. In BIA schools this figure is 86 percent, in public schools 51 percent." The comparison with the 1970 findings demonstrated "a very slight increase in the amount of English Navajo children know upon entering school." This fact--that there are children who have difficulty acquiring adequate proficiency in the spoken and written use of English--still remains one of the most significant concerns within Indian education.

A review of the published material in this area illustrates a wide range of approaches to the problem--from essays on difficulties confronting both educators and Indian children, to specialized tests for linguistic comprehension, and specific programs and materials for remedying inadequate reading and language skills. The approaches themselves are experimental and speculative, but one gains the impression that educators have come to realize that the difficulties involved in language acquisition are subject to just as many cultural as purely linguistic contexts.

While Willunk (1970) emphasized the need for continued research in material and method design on both a linguistic and a psychological level, Miller and Johnson (1974) discussed the ethnological problems in teaching Indian children (i.e., Navajo) to read and speak English. The linguistic differences between English and Navajo create an enormous problem for a Navajo child who must acquire a totally new source of language habits, especially when that child relates to a verbal system containing no component written structure. The materials used in teaching English have little connection to Navajo children, but rather relate to the life-styles and characteristics of white children. Consequently, the Navajo child finds little of interest in texts which he cannot relate to in a cultural context.

Differences between the reservation life-style and the school life-style create a tendency to "disrupt a cultural value system that has been arrived at over generations of trial and error." Because of this confusion in values between students and teachers, a large dropout rate is inevitable, and increases the complication of teaching English. The authors emphasize that the most essential step in English acquisition is to make the material used interesting enough so that the child will want to read of his own accord. The authors conclude that rather than a lack of capability in mastering the technical principles involved in learning to speak and write English, the problem in language studies is that of developing "increased interest in reading, speaking more English in the home environment, and an increased awareness of cultural backgrounds and differences."

Griese (1974) also attempted to delineate clearly the peculiar reading comprehension problems of Native American students, particularly with regard to Eskimo children. Because the "harsh" environment in Alaska has not allowed for the "rise of a leisure class," which is an "essential element in the evolution of written languages," a cultural pattern has evolved which "focuses on less sophisticated aspects of thinking, making it difficult for the child of that culture to succeed in a western educational system which emphasizes the interpretation of language symbols, especially in reading," on an abstract level. Griese explained that the problem is one of helping students who tend to think in concrete terms move to a state where they can apply principles of abstract thinking. By developing culturally oriented materials which would improve the student's self-image, and having follow-up discussions/questions concerning the stories read by the pupil or by the teacher to the pupil, the author suggested that such "cognitive" problems could be overcome.

The accessibility of school and town as a factor in both language development and maintenance was studied by

Spolsky in 1971. By means of questionnaires rating the language proficiency of six-year-old Navajo students, completed by teachers in schools with Navajo pupils on or near the reservation, and by an examination of the correlation of the ease of access to a school (BIA and public), the study indicated that six-year-olds coming to BIA schools "tended to speak Navajo with a small amount of English," while six-year-olds coming to public schools were closer to being "balanced bilinguals." Spolsky discussed the idea that the public school children's living closer to schools (centers of language diffusion) was the key factor in the differences in language acquisition. Through the use of an accessibility index and an average language score for each school, it was further found that the "nearer a community is to an off-reservation town, the more control it has with English and the more likely parents are able to speak some English at home."

A study by Werkoff in 1974 demonstrated similar findings. Several tests, such as a diagnostic reading test, a reading comprehension test, and a self-concept test, were given to determine the effects of the Distar reading program on fifth-grade students on the Rosebud Reservation in South Dakota. It concluded that the pupils in a larger, mixed-population center "exhibited greater reading comprehension and a larger vocabulary than the pupils in more remote Indian communities, whether they learned to read in the Distar program or not." A positive correlation between reading achievement and self-concept for all the pupils in all schools was also found.

A more specific study of reading and language comprehension was conducted by Brekke (1974). Brekke found that the reading achievement of second-grade, bilingual Zuni children was similar to that of other children of a lower socioeconomic class. In 1973, Fry observed that there was no relationship between intelligence and reading achievement, nor was there any conclusive evidence to prove the theory that reading achievement is integrally related to oral language abilities. Further, no positive correlations have been revealed between methods of teaching word recognition and the abilities of kindergarten children to learn and retain familiar written and spoken words (Shears, 1970). Yet a Florida Atlantic University Project (Kersey, 1971) indicated that Seminole Indian children did use fewer words than the normal vocabulary at fourth-grade level, although in a later determination, the same students recognized a greater percentage of words compiled in the Dolch word lists. It was also found that the Seminole pupils used a large number of words not contained on the Dolch list, and that the students were more adept in their mastery of words, if not in their use, than the list had indicated. The study also showed that peer-produced materials were viable vehicles for ascertaining an accurate measure of reading skills, and that there was considerable benefit from a one-to-one tutoring service provided by university students.

Writing abilities have also been observed with regard to linguistic comprehension. A 1973 survey by Hammons, to determine whether college freshmen from three races in five Oklahoma colleges differed in their use of selected aspects of written language, concluded that although there were specific differences in terms of syntactic maturity, misspellings, and in nonstandard uses of grammar, American Indian students and Caucasians shared more characteristics in their writing than either group shared with the Black sample studied. Within that context, any dissimilarities between Indians and Caucasians lay in the number of misspellings and in the nonstandard use of grammar made by the former. The recommendation of the study was to make a more detailed assessment of the curriculum in terms of rhetoric and language rather than to institute systematic programs in syntax. No particular recommendations were made specifically for Indian students.

Another approach to the problem of language and reading acquisition is that of testing linguistic components of language to determine the feasibility of teaching the Native language first, and of developing courses designed to make comprehensible the process and use of language materials. Language development among Sioux, Navajo, and Omaha youth, observed in terms of syntactical complexities (Iverson, 1970), vocabulary acquisition (Spolsky, 1971), grapheme and unit frequencies (1971), the prevalence of English loan words in the speech of six-year-old students (Holm, 1971), and transformational analysis of written and oral syntax (Conway, 1971), are among the studies in this area. The research data generally showed overall lower patterns of language development for the Indian children under study than for their white counterparts. Further study of deficient areas to aid teachers, supervisors, and curriculum directors was recommended.

Validity of Testing Materials

A question arising from the quantity and quality of such testing procedures concerns the validity of the testing measures themselves as reliable indicators of the hypotheses under investigation. In Ethnopedagogy (1971), Burger states with regard to cultural cognition:

> Intelligence must be redefined as the ability to adapt, and each ethnic group has a different adaptation niche. Thus, there can, by definition, not be an intelligence test that is fair to all ethnicities. The criteria against which responses are adjudged are those that the testing culture determines are correct; there can be no absolute. Consequently, an I.Q. test by definition must discriminate in favor of the ethnic group that defines it (p. 273).

Since then, other tests have also been brought into question. Brekke and Williams (1974) cautioned against the use of the Draw-A-Man test as an adequate measure of intelligence for the Indian reservation child. Kersey's study comparing the vocabulary of third- and fourth-grade Seminole children with the Dolch word list illustrates the significant discrepancy between the list's vocabulary expectations and the actual capabilities of those students, and questions the validity of Dolch as a "valid predictor of Indian achievement." Lefley's conclusions from a study on the self-concept of Miccosukee Indian children (1974) underlined the need for "development of sensitive, culturally-appropriate, multi-dimensional instruments to measure self-perception changes," since results in both personal and ideal self-concept tests were dependent on either inappropriate instruments or their variable presentation.

A paper by Briere and Brown (1971) attempted to assist in the development of norms for the interpretation of tests designed to indicate elementary proficiency in English by Amerindian children. Specific objectives of norms should "identify the child who needs special English training and to place him or her in the proper level of English training intensity." Further, the teacher should be provided with specific linguistic information for each child in each language group. Such information could be used as a "diagnostic guide" for teaching methods and use of materials. A third objective would be to "provide a means of assessing the relative merit of various English programs."

Pilot Programs in Bilingual Education

The directions imposed by such theories and tests as presented above have resulted in a number of programs and methods.

The use of "peer-peer interaction set up on a multisensory basis," peer-produced materials, and university teacher aides for the purpose of "upgrading the school program" was implemented on the Big Cypress Reservation in Florida (Kersey, 1971). The study findings revealed a "retardation of regressive reading and language trends."

Individual teacher instruction and teacher aides using analysis and study skills, as well as comprehension and vocabulary exercises, were the focus of an ESEA Title I instructional reading program at Chilocco Indian School (Kimble and Davison, 1972; Alley, 1974). A reward system which placed responsibility for achievement on the student, "free" reading, and a university-based consultant working in conjunction with teachers were also aspects of the program. Tentative results of the project revealed significant gains by students. The researchers stressed that the interpretation of such success can only be "applied to the particular group under study, due to both the unavailability of control groups and the 'restricted' number of cases reported." Nevertheless, the diversity of such a reading program, the reinforcement of affective teacher behavior through an increase in individual contact, the availability of a university consultant, and the reward system, all appear to have had a "positive effect on student motivation and greater faculty commitment to remedial education"--two factors the authors felt were "critical" for eventual success of such a project. In 1972, Project HEED involved approximately 1,350 elementary Indian children throughout classrooms in Arizona in a program designed to improve reading abilities as well as to develop cultural awareness, parental involvement, and more positive teacher behavior. Evaluations of the project since 1972 (Hughes) using a variety of tests (Distar, Field Enterprise, Self-Appraisal Inventory, etc.) have shown inconsistencies. Until 1973, progress in reading achievement and self-image was noted in all classrooms. Affective behavior patterns of teachers improved 8 percent, parent involvement increased 70 percent, and an overall increase in cultural awareness seemed to be developing. In 1973, using the same testing procedures, there was little positive change in self-concept and in "many instances a retrogression had occurred." Reading levels were maintained at or somewhat above normal grade level in all but one of the kindergarten classes; there was no growth in the reading achievement of seventh and eighth graders. The 1975 evaluation indicated that although "significant gains were attained at all schools . . . .only one school achieved the national median score of the 50th percentile."

Materials designed explicitly for reading and language programs have been developed for both English and various Native languages. Resource materials for teachers include actual reading series stressing grammar, vocabulary building, syntax, and spelling, language instruction kits, and remedial curriculum manuals for grades K-12. The Read Aloud Series, a set of 10 illustrated books for building greater vocabularies and "inculcating pride in heritage," and the Rebus Reading Book Series, a supplementary set of 10 books illustrating Sioux life in simple concepts through the use of rebuses to reduce vocabulary load, have been developed (Schlief, 1972) and are being used in seven schools at the present time. The general attitude to these materials has been favorable, particularly on the use of rebuses as "possible stimuli in building an oral Sioux vocabulary." Benjamin Beaver's Box, an oral language development kit for the Alaska Reading and Language Development Program (Rubin, 1973), approaches the development of language skills from the theory of sensory experience as the "most direct and successful approach to the development of oral language skills." The success of the kit is determined by student reactions to such "sensory experience" and their consequent interactions with others. Some pilot reading materials in the Navajo language (Atcitty, 1971) were prepared by a study group of six university students in the interest of teaching Navajo children to read their own language first. The 11 products developed thus far are based on the language-control approach--although drawings have been used to initiate a language-experience approach. In the materials, a loosely controlled sentence approach initiates the reader with a relatively long sentence and thereafter asks him to contend with a single word substitution in the same sentence. Also used in the books is the additive vocabulary approach. There have been objections to the size of the print (Gradman, 1972).

Other Considerations

The advent of multicultural education as the most relevant and comprehensive structure for Native American curricula has engendered a body of literature expressing the prevalent needs, the controversies, and the theories and practices of educators within the confines of bilingualism.

According to Purley in Bilingual and Bicultural Education for American Indians (1974), those concerned with Native American education must "recognize the value inherent in revitalization of the fundamental 'life' principles." To achieve this end, a critical examination of present Indian bilingual and bicultural programs is sorely needed. To provide a favorable climate for valid research in the evaluation of such programs, Purley recommended that priority be given to the consideration of "(1) the educability of Indian youth, (2) the misconceptions of an either/or proposition relative to academic and bilingual education, (3) the lack of a solid foundation in communicative and computative skills as the greatest deterrent to Indian education, (4) the rigid definitions applied to compensatory program allocations." In response to a felt need for better evaluation of Indian education programs, Purley proposed that several methodologies be used; e.g., periodic self-evaluations by school staff and administrators, and the use of community leader, teacher, and student consultants. He further emphasized the necessity for continuous research to determine the standards achieved by bilingual and bicultural educators in (1) developing an accurate view of the status of bilingual programs, (2) exploring problems in student motivation, and

(3) evaluating projects in Indian education resource development and training. Bilingualism in the Southwest (Turner, 1973) had also pointed out the diversity of academic interest in the phenomenon of bilingualism, the emphasis upon necessary research in the areas of language resources, and the development of cultural and linguistic "interactions."

As a result of such opinions, Congress, in an amendment to the Elementary and Secondary Education Act (PL 93-380, 1975), called for an assessment of the bilingual education needs of Indian children enrolled in schools operated or funded by the Department of the Interior. The National Indian Training and Research Center was contracted to conduct the survey and proposed to evaluate the extent to which perceived needs were either being met or not met by existing programs. From data compiled by means of questionnaires completed by officials at all BIA, contract, or public schools receiving Johnson-O'Malley funds, it was observed that there was a "wide discrepancy among educators in defining bilingual education and in interpreting bilingual education regulations." Few schools--only 33 percent--had conducted comprehensive needs assessments from which objective data could be derived, and even fewer parents actually favored the bilingual approach to education. This latter finding pointed to the need for "increased parent involvement in designing programs to follow needs assessment." The study concluded that, of the 169,482 Indian children enrolled in the Department of Interior schools, almost one-third were found to have bilingual education needs, and one-fourth were revealed to have bilingual needs which at that time had not been recognized.

An earlier study (1971) by the National Consortia for Bilingual Education had reached similar conclusions in its assessment of all Title VII Bilingual Education Projects.

Bilingual Programs: Implementation and Evaluation

Further indications of Indian student needs being met within the bilingual context are shown by the implementation and subsequent evaluation of various programs. Particular attention has been focused upon the Navajo, Pueblo, Alaska Native, Choctaw, and Cherokee communities.

A paper presented by John Read at the Annual Meeting of the American Educational Research Association in 1975 stressed the importance of considering the economic, sociological, political, cultural, and psychological context in which a Navajo bilingual program is developed, especially since the Navajo nation is presently experiencing "obvious social change." Read suggested that evaluations of such programs by means of testing instruments are inconclusive, because of the questionable validity and reliability of the methods. If the actual effectiveness of bilingual curricula is to be appreciated, key social factors affecting those curricula (such as the impact of teachers returning to the reservations) must be identified. Read further suggested that communities be matched to sociolinguistic situations, which, in turn, would lead to relevant bilingual programs that would be identified with those external factors influencing the sociological status of the community in question.

The necessary considerations which must be of primary concern in designing a Navajo bilingual curriculum were discussed by Bradley in 1974. The most significant factors in designing an adequate program of bilingual content were (1) involvement of Navajo parents, (2) the leadership of Navajo school boards, and (3) curricula developed as a direct consequence of Navajo world perspective. Also to be seriously considered are: the community makeup; the aspirations, goals, skills, and values that the Navajo community desires for its students; the school-community relationships; and school relationships with other agencies (i.e., state, tribal, BIA); and tribal attitudes toward bicultural education. Curriculum designers must obtain data that reflect the intensity of the program, and must ascertain whether this intensity would require them to demonstrate a "uniliterateness or a biliterateness" in promoting a program representative of bilingualism. When designing the curriculum, the Navajo calendar, the importance of the home, cultural and behavior traits, and teacher qualifications must be taken into account.

At the Symposium on Sociolinguistics and Language Planning of the AAS/CONACYT Meeting on Science and Man in the Americas (June 1973), Spolsky commented that since 1968 Navajo bilingual education has been marked by a growing recognition of its potential value, not only as an "answer" to the language problem, but as a focal element in changing education from an "alien function to one controlled and shaped by the Navajo community itself." Spolsky discussed the development of a standardized and modernized orthography through which the community advances to the "modern" life. Volume II of his Navajo Reading Study further emphasized the necessity of continuing bilingual programs and their development, especially in regard to the training of bilingual Navajo teachers. It is important to recognize the implications of such curriculum design, with respect to the political control of school systems, and the economic redirection of Navajo teachers as increasing numbers of them replace non-Indian faculty.

Markowitz and Haley (1973) found that 96 percent of the Navajo children who entered first grade in the San Juan School District in Blanding, Utah, could not speak or understand English. The authors presented a project to translate reading materials into Navajo by means of filmstrips, cassette recordings, slides, 16mm films, and book illustrations. It was hoped that providing instruction in the language understood by the child would create a positive self-image in the child, permit greater communication between parents and teachers, and help the child to achieve greater facility in other academic areas while learning English. Evaluation of the project demonstrated that the children had actually improved both in their reading proficiency and in their general attitudes toward school itself.

In 1971, Wilson discussed the general assumptions held by educators in the development and implementation of Navajo bilingual-bicultural curricula in the early elementary grades. The intent of the program was to "develop and expand abilities for learning, to teach the children how to learn and how to cope with change, to sensitize students to two cultures, to structure what teachers taught, and to generalize how they taught." What the curriculum considers inherent, and what the curriculum has done with those inherent elements, "characterizes the assumptions made, such as teaching technique as directly affecting learning ability, and teacher-student ratios as affecting the learning progressions of students."

A paper by Holm (1971) described a program for bilingual education in a community such as Rock Point on the Navajo Reservation in New Mexico to teach English as a foreign language within a bilingual setting. The goal of the program is termed "coordinate bilingualism," that is, each language has separate-but-equal status. The program is one of transition, by which the Navajo language is used as the means to enable children to go to school using English. The program itself involves team-teaching in the two languages, with the English language teacher and the Navajo language teacher conducting activities at opposite corners of the classroom simultaneously, each working with a relatively small group of students at one time. In the structure recommended for this program, the Navajo language teacher is in charge and also teaches course content, especially in the lower grades. The English language teacher is teaching a foreign language only; content is secondary to English. The latter's goal is to make it possible for Navajo children to "cope" with education in English.

Another study by Spolsky (1971) illustrated the increase in English proficiency in the six-year-old Navajo child, partially through indications of linguistic borrowings. Contact outside the reservation, the existence of almost completely monolingual schools (English), and the location of residence were considered factors contributing to this increase.

The relationship of bilingualism to selected indicators of cultural identity was investigated by Ross in 1973. A representative sample of upper elementary, secondary, and adult Sioux Indians on the Standing Rock Sioux Reservation was interviewed and administered questionnaires. The intent was to rate the relative importance of information about selected indicators of their culture derived from literature and research on Plains Indian culture. The conclusion from analysis of the data was that "bilingualism did not influence the perception of respondents regarding their desire to know or have more information about specific characteristics of Indian culture." In contrast, there was a relationship between the age of the respondents as a group and their expressed need to have access to more information about their culture. "The only inconsistency in this trend was exhibited by the secondary student sample. This finding may be attributable, in part; to a possible cultural identity crisis as a result of adherence to a youth subculture."

Educational systems of the Pueblo Indians, both tribal and formal, including Taos, San Juan, Tesuque, Zia, Zuni, and the Bernadillo district in New Mexico were also analyzed (Cibario, 1974). This study attempted to determine whether or not (1) the Pueblos' traditional culture was being taught and to what extent, (2) bilingual and bicultural studies had been implemented in the elementary and/or secondary schools on the reservations. Interviews were conducted at day schools operated by the BIA, the All Tribes Mission School, and schools in the Zuni area. Students, teachers, school personnel, and parents were questioned about tribal and formal education. It was found that "so far San Juan has been the only Pueblo to introduce bilingual and bicultural studies into the elementary school. The other school systems preferred to keep tribal and formal educational programs departmentalized with tribal education in the kivas.

Even though bilingual and bicultural studies had not been developed at Taos, Tesuque, Zia, and Zuni, Indian aides who speak the language of the Pueblo had been hired to reinforce instruction."

Similar definitions of bilingualism and programs have been applied to education of Alaska Natives. A paper presented to the Annual Meeting of the Society for Applied Anthropology in 1976 by J. Orvik discussed bilingual education in the context of its necessary flexibility to meet specific Native community needs. The type of language program "appropriate to and for the bilingual situation in a community must be the defining characteristic in curriculum development."

Two programs are currently in existence in Alaska state-operated and BIA schools: the Yupik Bilingual Education Project for state schools, which incorporates Yupik language training into the early elementary grades while at the same time introducing English as a second language in small, manageable portions; and the Primary Eskimo Project of the BIA, Bethel Agency, which also has introduced the teaching of both English and Yupik into three grade levels of seven pilot schools.

Choctaw education has also been characterized by experimental programs which "bring the Indian child into the mainstream of school life without sacrificing his identity as a Choctaw." The Choctaw Bilingual Education Program, begun in 1970, concentrates its attention on four Oklahoma schools in the old Choctaw nation where the inability to speak or read English is acute. The program emphasizes three educational imperatives developed by local administrators, teachers, and community leaders of the Choctaw nation: "(1) Choctaw children must have experiences both in and out of school that help them to develop positive self-concepts; (2) the children must be able to use the Choctaw language as the basic instrument of learning and acquire facility in English as a means of supplementing and extending their learning of Choctaw; (3) Choctaw must have teachers and classroom aides who understand Choctaw and patterns of Choctaw thought and behavior and who accept these as fully equal to the English language and Anglo-American patterns." Major components of the program are in-service workshops, an in-service instructional program in the public schools, parental and community involvement, and a five-year master's level teacher-preparation program. A complementary handbook for teachers (Littlejohn, 1971) discusses the major educational needs of Choctaw children, what teachers and aides need to know about the language, and how the program can meet the needs of Choctaw bilingual children. Reference is also made to materials available for the classroom, materials available for in-service training, and techniques in bilingual education teaching.

At Tahlequah, Oklahoma, under the direction of Northeastern State College, a Bilingual Education Center has been established to help public schools develop improved techniques for teaching Cherokee-speaking pupils who enter school with poor English-speaking skills (Holland, 1972; Hess, 1972). An oral language approach is used at the elementary level with the help of teacher aides. These aids have proven to be the most significant aspect of the program. Feelings of security among the students, and communication between teacher and student, have improved with their presence. A listening library is also employed for language preparation and training. An evaluation of the center revealed that Cherokee-speaking children are learning English "faster and in a more socially acceptable form."

MATERIALS AND METHODS IN CURRICULUM DEVELOPMENT

Materials, both experimental and those in present use, and methods for the dissemination of information relevant to the context of curriculum development include: suggested children's bibliographies; course materials; teachers' manuals, such as those provided by Project NECESSITIES;

reviews of currently employed texts; extention of library and museum services; development of media centers, and special training programs for media personnel and specialized librarians. Available literature compiled since 1970 seems to suggest a dearth of material, not only with regard to the number of adequate teaching texts based on cultural heritage, but particularly with respect to the accuracy of the texts and reference books in use, or being printed for use, in the nation's schools.

Evaluation of Materials

In an evaluation of texts and library materials at one elementary school in Lawrence, Kansas, Mallam (1973) found that little attention was given the Native American in the curriculum and that "what attitudes were created among both student and faculty, in the absence of instructional expertise, emanated partially from history tests replete with instances of distortion, inaccuracy and misrepresentation." Even with regard to library sources, he concluded that attempts to depict the Indian, both in the past and in the twentieth century, were "limited and inevitably lead to romanticized and unrealistic accounts of Indian life," rendering the Indian a "fabricated being, relegated romantically and distortedly to the position of an anachronistic, sociological artifact."

Tribble (1973) undertook a study to determine whether third-grade Ohio public school children were being exposed to the diversity of ethnic groups--and, if so, in what manner certain minority groups were characterized in reading material. The study showed that only the Black minority was adequately represented in the basal readers surveyed. The American Indian, one among other minority groups, was not depicted; the children thus had little opportunity to form concepts of Indian people.

The non-Indian perception of Indian people and culture, its strengths and contributions to American societal life, were reviewed in 300 books by 32 Indian scholars, Native historians, and Indian students (Spang, 1971). Not one book was approved as a dependable source of knowledge about Indian history and culture. Most of the texts contained misinformation, distortion, or omission of important historical facts. What was suggested by the study was an approach to Indian history and culture that was more apathetic and indifferent than consciously discriminatory. Recommendations were made by the reviewers not only for correction of text deficiencies, but for a pervasive cultural reorientation in teacher and counselor.

Other studies (Costo, 1972; Bean, 1972; Stensland, 1971; and Napier, 1970) also generally agree on the lack of historical and ethnographic accuracy in educational texts for all grades. They recommend the continuous evaluation of materials and the dissemination of research findings, along with appeals to anthropologists for greater involvement in the development and selection of instructional materials.

Redemies for the Lack of Good Materials

Remedies for the unavailability of information meeting the needs of local Indian communities, whether urban or rural, have been the subject of several studies, both in the context of present and potential library and museum programs and in the development of specialized media centers. A Preliminary Study of Library Programs Related to American Indian Studies Programs in Colleges and Universities (Townley, 1971) illustrated the major problems in present college library design, among which was included the absence of Native American professional librarians, the lack of adequate funds, and the equal lack of a definite commitment by personnel to design and implement a Native American library program. A survey of library services available to Navajo people on the reservation (Wood, 1973) also pointed out the inadequate funding.

Attempts to plan, develop, and implement adequate library programs are the focus of a project initiated by the National Indian Education Association in 1972, part of which has resulted in an extensive library service guide. The guide covers such considerations as the establishment of contacts with Indian communities, the planning of relevant services contingent on community needs, criteria for staff and materials selection, alternatives to cataloging designs, the role of library responsibility in conjunction with area schools and Indian organizations, adult education facilities, and components involving the actual use of the library itself (circulation policies, use of reference texts, etc.). The project has further implemented experimental library programs at Rough Rock Demonstration School, St. Regis School on the Mohawk Reservation in New York, and Standing Rock School on the Sioux Reservation in South Dakota. Other studies in this area include Higgins (1974) and Smith (1975).

The possible benefits of making mobile library units available to isolated areas where oral traditions are conventional were studied by the Four Corners Regional Commission on Mobile Library Services to Navajo and Apache Counties (1971). An assessment of the three-year program in 1973 showed the project to be a "valuable adjunct to the somewhat meager educational and recreational resources available to the residents of this region." Suggestions for librarian training programs, and for professional librarians involved with Indian students at the present time, have also been published in the form of procedural manuals for Indian curricula, resources and bibliographical lists, and materials selection guides, such as filmstrips, audiovisual equipment, and records (Vaughan, 1971; State University of New Mexico, 1971; Smith, 1970).

Other practical innovations in the educational programs of Native Americans which have been considered include: the expansion of information services into special media centers and museums, and the use of audiovisual equipment. Houlihan

(1973), the director of the Heard Museum in Phoenix, Arizona, emphasized the need for a redefinition of the function of museums; and using the example of Navajo application of the Heard Museum, he discussed how museums, especially those of anthropology and ethnic arts, can become more relevant to and beneficial for their immediate audiences. Kite (1972), an anthropologist and former museum curator, also suggested the use of "traveling" museum vans and audiovisual equipment in the development of learning through the medium of art.

The possibility of using television as the core component in an instructional system designed for educationally disadvantaged children is appraised in a study on the international uses of media through cross-cultural comparisons (Mackin, 1971). Although the author concluded that instructional television could benefit the bilingual instruction of Navajo children in conjunction with highly qualified instructors, the exorbitant cost and maintenance fees for such a pilot system render this possibility unfeasible. Further research in this area is called for.

Lack of media resources and media specialists in BIA schools was emphasized by Bromberg (1972). In a program description he suggested the establishment of a media center under the direction of Native American specialists, using such resources as films, library collections, vacation media kits, media-oriented curricula, and dormitory book collections.

An Instructional Materials Center at the Institute of American Indian Arts, Santa Fe, New Mexico, was studied by Blank (1970). Intended as a different form of school direction employing innovative teaching methods and materials, the center is responsible for providing special media materials and equipment to local and area schools. Unfortunately, studies of the progress of the center are unavailable at this time.

SUMMARY AND CONCLUSIONS

The literature pertaining to curriculum needs in Indian education covers a wide range of topics. The studies are primarily devoted to (1) the effectiveness of bilingual/bicultural programs, (2) the practical and cultural value of introducing Indian studies into the classroom, and (3) empirical surveys on the language and reading abilities of Native American students. A small amount of research has also been done on health, safety, legal, and vocational education, as well as on the impact of cultural studies on students' self-concepts.

Trends in the literature are directed toward the development of curricula that are linguistically and culturally sensitive to Indian needs. However, specific needs of Indian students are not discussed directly; they are only implied. Consequently, conclusions regarding methods and approach are tentative at best. The greatest need at present is for further research and more Indian involvement in curriculum design.

SPECIAL PROGRAMS

The literature reviewed in this section includes a broad array of material related to adult vocational programs and other special programs for the secondary, elementary, and preschool levels. Included are discussions of factors affecting success, such as attitudes, personality characteristics, ethnic origin, cross-cultural communication, and manpower needs based on economic factors. In addition, materials relevant to the educational needs of exceptional children are reviewed and discussed.

There have been a multitude of studies and subsequent reports demonstrating a serious attempt to improve educational programs made available to the Indians by the federal government, as well as private and public institutions. Adult Native Americans, like certain other minority groups, are concentrated in low-paying, low-prestige occupations instead of being represented in various stratification levels in proportion to their numbers in the population. Like any other minority, Indians value education as a means to improve their condition. New approaches such as manpower programs (MDTA) and adult vocational technology (AVT) have arisen to meet their needs.

VOCATIONAL-TECHNICAL AND ADULT EDUCATION

A number of articles discussed the need for increasing vocational-technical career education. Smith (1974) and Dupree (1974) pointed out that current dropout and unemployment rates among Indians called for increased development of occupationally oriented education programs designed to meet specific Indian needs. The effort, Smith suggested, should be built into basic subjects at all grade levels, with emphasis during the senior high school years on intensive job preparation, preparation for postsecondary occupational education, and preparation for entrance into four-year

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college programs. Guidance counseling, curriculum laboratories, evaluation, and manpower development should be an integral part of the entire program development. Within the program, planners must be careful to emphasize the cultural backgrounds of the students (Dupree, 1974; Orr, 1974).

A National Advisory Council on Vocational Education survey of a representative sample of Indians in a variety of educational capacities adds support to the call for increased efforts in vocational-technical education (Rhodes, 1973). Information gathered to support recommendations appears to be very reliable and consistent with the 1970 census and with educational reports filed by the states. Seven recommendations, based on survey outcomes, call for (1) increasing Indian control of schools, (2) emphasizing cultural values, (3) increasing and improving guidance and counseling services, (4) enlarging and improving higher educational opporunities, (5) improving vocational-technical career opportunities, (6) increasing research and analysis, and (7) strengthening public school programs for Indian children.

Edington and Willey (1971) conducted follow-up research on the conference recommendations discussed above. Major findings showed that there was a noticeable increase in Indian vocational training programs in four states. Evidence was presented that demonstrated that Indians were being consulted in planning programs. Four states had either appointed, or were in the process of appointing, an Indian to the state advisory board. However, industry and business sectors had definitely taken the lead with formal and informal "on-the-job training programs." Since time is required to allow the recommendations to be implemented, results are tentative. The ensuing material on the needs and problems of Indians in vocational-technical education is thin. The themes are varied and authors address a wide range of issues; a majority discuss adult education issues.

Factors Affecting Success of Programs

The attitudes and personality characteristics of adult Native Americans have been the subject of a number of studies that have attempted to identify relationships between the successful and unsuccessful participants in adult education programs. The methodology varies in the researchers' use of interviews, observations, group counseling sessions, and questionnaires. Allen (1968) attempted to identify certain salient psychosocial characteristics of 127 successful and unsuccessful adult Indian students from seven reservations in Montana. Through a survey approach, information was obtained on the following variables:

- Home reservation.
- Sex.
- Marital status.
- Blood quantum.
- Age.
- Highest grade completed.
- Type of schools attended (public, mission, or BIA).
- Results on the California Achievement Tests, the Nelson Reading Tests, and the General Aptitude Test Battery.

The results of Allen's survey revealed that (1) enrollees over 27 years of age were more successful, (2) enrollees from the Blackfeet and Crow reservations were more successful than those from the other reservations, (3) enrollees who attended Indian schools were less successful than those from public and mission schools, and (4) no relationships existed between performance on assessment instruments and success.

In a related area, Delong (1973) surveyed participants in manpower training programs in South Dakota to determine the possible associations between socioeconomic characteristics and career mobility. His results showed that non-Indian participants had the highest completion rate, while both Indian males and females had the lowest rate. This was explained as probably due to racial and cultural factors. Similar conclusions were reached in a conference report on adult education by Chatham and Red Bird-Selam (1973).

Clinton, Chadwick, and Bahr (1973) tested 10 hypotheses related to successful completion of vocational-technical programs. Data were obtained from Pacific Northwest single, heads-of-household, reservation Indians who had successfully completed a vocational-technical program. The sex of the participant was found to be the single most significant factor associated with the completion of training. Other significant factors included employment experience, age, and marital status (cf. Clinton, 1972). A review of the results gives the impression that success can virtually be assured if the participants are selected by using definitive criteria. If screening criteria are used, however, there remains the disturbing possibility that a number of persons could be rejected who, because of certain "unknowns," might be capable of completing a program. Screening applicants from a base of "success criteria" is a dangerous process; far too little information exists to permit screening to take place. Even if it did, there is doubt about its usefulness.

Regional Vocational-Technical Programs

A number of vocational-technical programs have been initiated in certain sections of the country. Miles and Henry (1974) discussed a program designed to provide Southwest Indian youth with opportunities to achieve satisfactory occupational and social skills. Area residents were interviewed and their responses helped determine the content of the curriculum and the student services component. Similar efforts were conducted by different investigators in Oklahoma (Modern Technology in a Native Environment, 1975), California (Indian Education and Training Opportunities at Columbia Jr. College, 1973), Wisconsin (DeVries and Swan, 1972), and Alaska (Bovee and Binao, 1974).

Swan and DeVries (1973) evaluated the effectiveness of the Great Lakes Apprenticeship Program in Wisconsin. Their data consisted of trainees' judgments of program effectiveness seen in relation to noticeable changes in job improvement. The results indicated that the trainees were generally positive about the program; substantial improvements were made in pay levels and number of hours worked. Swan and DeVries emphasized the importance of program relevance in terms of meeting the psychological and training needs of Indian young adults.

Some of the vocational-technical programs that were initiated in the Southwest concentrated on the unique occupational needs of the local residents. Tanzman (1972) discussed the successful use of individualized instrucion at SIPI in Albuquerque. However, the program was limited to students 26 years of age and younger. New Mexico State University (Gorman, 1970), designed a 360-acre, individual and tribal enterprise farm project to study (1) the economic feasibility of potential cooperatives for the Navajo Indian Irrigation Project, (2) possible increases in employment and income, and (3) knowledge derived for cropping patterns, capital needs, training requirements, and livestock enterprises. The study found that very few Navajos have sufficient capital resources to finance a commercial-size farm. The most significant limitations of the experiment were the lack of title to the land (indicating necessity for mortgages), inadequate slaughtering facilities, and lack of a climate favorable for raising a large variety of foodstuffs. However, overhead farming costs were radically reduced by the cooperative, and employment increased as jobs became available in related areas, such as welding. The results of the project demonstrated the practical benefits of setting up programs leading to agricultural degrees and of organizing farms as a tribal enterprise. Cox (1975) and Watkins (1973) also discussed successful special agricultural courses for adult and high school students on the reservation. Although course content is relevant in terms of transmitting farming and irrigation methods, most of those who studied such techniques had neither land nor equipment to implement the training. Consequently, meeting such needs created new limitations on a much larger scale.

Adult education as a way to alleviate community problems, such as unemployment, alcoholism, and high school dropout rates, has been the focus of various programs and studies throughout the country. The Choctaw Adult Education Program, the product of a design to give adults access to an educational program in their own communities, was evaluated as successful in the final report of 1975. The program emphasized equally the delivery of effective client services and the development of professionals from among the program's client population. Courses were organized at established learning centers throughout the largest Choctaw communities and covered such subjects as consumer education, money management, instruction in nutrition, driver's training, and the regular GED degree course. The evaluation of the program was based on a data analysis using nationally standardized general ability measures, observations, affective measures, teacher records, and questionnaires.

A final report (1973) on the Gila River Indian Community ABE Experimental Demonstration Project proposed the development of innovative approaches in adult basic education to motivate undereducated, alienated, and disadvantaged Indian adults. The project, located in central Arizona and serving a population of about 8,000, attempted to reach Indian adults by providing tutoring in a learning center, in jail, in a halfway house for alcoholics, and in private homes. Local residents were trained as tutors and counselors in the training program and in in-service sessions with associate professionals.

Jore (1975) also discussed the Mountain-Plains Family Career Education Model Program, but in terms of the program's low success rate among Indian enrollees. Because of the program's obvious failures, a task force on Indian families was established to identify problem areas and to suggest ways of retaining Indian students to complete the program. Jore discussed the psychological, sociological, and cultural aspects of such major problems as alcohol, marital conflicts, reservation life versus institutional structures, isolation, worry, rigidity, self-rejection and interpersonal isolation, extended family influences, conflict and aggression, and motivation versus expectation. The conclusions of the task force report included: (1) the difficulty of adjustment by clients to the majority culture was the result of cultural dissonance; (2) the Mountain-Plains Program was a valuable experience for only a small spectrum of the Indian population; (3) male heads of households were successful in mastering both the vocational and educational requirements of the program; and (4) the program was most successful with families who were at least partially immune to culture shock.

Analysis of Programs

Approaches to adult education have also been subject to analysis. Rogers (1973) discussed the effectiveness of the individualized GED instructional program at Juneau, Alaska, as compared to the traditional GED instruction format followed in Anchorage. Using several variables such as age, test scores, length of time in the program, etc., the analysis indicated that the traditional method of GED instruction was significantly more effective, especially with male students, than the individualized learning schema implemented at Juneau; although both programs had strengths and weaknesses. On the other hand, Bippus (1973) commented on the advantages of nontraditional adult instruction in implementing untrained community mentors as teachers.

In contrast, Pollard (1974) described adult education from the standpoint of social hierarchy rather than effective teaching methods. Pollard argued that the effectiveness of adult education programs for lower-income groups depended on the emphasis placed upon group solidarity. The problem of emulating a superior-ranked group and yet attempting to retain a sense of community tended to impede satisfactory participation. Pollard suggested an holistic atmosphere for community development, and group recruitment and mobility as the most successful elements in the program structure.

Community College Programs

The emergence of reservation-based community colleges (e.g., Navajo Community College and the North and South Dakota Indian community college programs) as the most potentially successful means for embracing self-determination (Fuchs, 1972) has also been subject to much discussion and criticism. Although Indian-controlled institutions have an educational philosophy that emphasizes the kind of cultural, occupational, and general education necessary in part for resolving reservation problems, several authors (Janssen, 1975; One Feather, 1974; Nettle, 1974) pointed out issues which call into doubt the theoretical benefits of such schooling. Janssen noted that Navajo Community College, faced with financial chaos, a limited budget, an inadequate number of trained Indian personnel, administrative uncertainty, a minimal white curriculum, and a high student dropout rate, continues to be undermined by the inability to break away from financial dependence on the federal government. It is also hampered by the cultural dominance which pervades Indian programs and attitudes, even under the best of intentions.

Such issues, One Feather (1974) contended, would continue to confront Indian community colleges in the future. In continued Indian control of reservation schools and colleges, One Feather saw a need for:

- Definition of the tribal-federal relationship and the federal role in Indian self-determination.
- Development of an accrediting agency to deal with the legal and cultural standards of tribal programs.
- Consideration of the effects of assimilation, cultural knowledge, and bilingualism/biculturism on educational philosophy.
- Examination of the effectiveness of the American Indian Higher Education Consortium in dealing with federal agencies and the national academic community.

SUMMER PROGRAMS

Summer camp educational programs for preschool, elementary, and secondary Indian students (Tallakson, 1970), cultural exchange study programs for white and Native American students (Jones, 1972), and parent-organized mobile education have also been initiated as measures both for implementing educational resources and for creating a broad pattern of educational, cultural, and social experience. Mason (1970, 1971) discussed Project Catch-Up, a six-week summer program initiated at Western Washington State College for low-achievement junior high school age youth from minority or poverty backgrounds. The project, which began in 1966-67 on an experimental basis, developed into a five-year program in 1968 with a ten-year follow-up evaluation structure. The emphasis in the program was placed on formal instruction in language arts, art, science, and mathematics; there was also a fellowship program for experienced teachers of disadvantaged students. The results of the testing of the 1969 groups in terms of achievement and mental maturity showed significant improvement in scholastic facility, although arithmetic subscale and response of females to the mental maturity tests remained unchanged. The overall attrition rates for participants, including death and dropout rates, remained at 13 percent as of 1971. The report concluded that Project Catch-Up "seems to be successful in effecting better school retention." Later indices of success are not available.

PRISON PROGRAMS

Another special program area is that of prison reform. The objectives here are:

- Improved work habits.
- Improved social behavior.
- Acquisition of recreational and academic skills.
- Development of leisure skills.
- Community participation.
- Development of responsibility for one's actions and attitudes.

Because the practices of both the BIA and the prison system are responsible for the dependency of the Indian (Nordwall, 1974), appropriate educational programs must be instituted to undermine the subtle coercive policy of the prison/reservation system which solidifies collective interdependency. Programs have been initiated for just such a purpose, although with relatively little success. A visitation program involving employment assistance and vocational and scholastic training was initiated at San Quentin in the early 1960s. Motivated by their failure in dealing with Indian inmates, officials at the prison secured outside sponsorship which led to the organization of the American Indian Cultural Group. This action was supported by the United Bay Area Council of American Indian Affairs, the BIA, and the California State Department of Corrections. Although the ensuing program produced impressive results, it dissipated after only six semesters and, as Nordwall stated, San Quentin had, as of 1974, a 90 percent Indian recidivism rate. The failure to help inmates think for themselves was implied to be a key factor of the program's failure.

A 1970 study by Woods and Harkins also discussed an innovative prison program at Minnesota penal institutions with significant numbers of rural and urban Indian inmates. A special Indian program, Project Newgate, was proposed to deal with the high rate of undereducation among the Indian population in the hope of "reversing the delinquent self-image and offering higher education as an avenue to opportunities for acquiring better things, including status and feelings of significance in a more conventional way of life." The program revolved evolved around group counseling and college classes. Emphasis was placed upon the development of a "constructive" Indian subculture"--with arrangement for community referrals as a supportive follow-up--and improvement of the subculture's attitudes toward education. The University of Minnesota Center for Urban and Regional Affairs and the All-University Advisory Committee for Community Program undertook the program design and implementation. Unfortunately, a lack of Indian input and practical experience in the program limited the feasibility of an otherwise potentially valuable schema.

Juvenile delinquents are the focus of a rehabilitation program instituted at the Southwest Indian Center (1971). Four levels have been developed within the program, in each of which the trainees' vocational, scholastic, and personal improvements are recorded chronologically. The consequences of negative behavior, privilege restrictions, and discipline are also elements of concern in the program.

PROGRAMS FOR THE EXCEPTIONAL STUDENT

American Indian enrollment in classes for the educable mentally retarded and educationally handicapped does not exceed normal percentage figures, according to a sample survey of the Northern California Indian Education Project (Miles, 1972, 1973). However, a 1970 assessment of the Navajo by the BIA (Mestas) revealed a consensus that the BIA should assume more responsibility for administering programs for such exceptional children (e.g., deaf, blind, subtrainable, mentally retarded, and preschool blind individuals). The attitudes of personnel also indicated that segregated school plans, small special classes, and cooperative school programs were the most effective and desirable structures for the handicappped. The survey revealed that there was agreement that dealing with handicapped adult Indians was the responsibility of local community agencies. As a consequence of these recommendations, in 1972 the BIA published a special-education manual for administrators, emphasizing the importance of preparing the exceptional child to be a "self-sufficient and contributing member of his community." The role of involvement in, and expectations for, the BIA and local administrations was also outlined. A revised edition in 1974 included discussion of these subjects: (1) efforts to decrease dropout rates, (2) need to provide biennial evaluations, (3) policies requiring local agency and BIA support, (4) screening and assessment procedures that focus on early educational intervention and parental approval, (5) personnel preparation and duties, and (6) use of curriculum and related materials. In light of these guidelines, several articles discussed and evaluated programs serving exceptional students.

Miles (1973) reported on the efforts of the Northern California Indian Education Project to provide curricular information to teachers and administrators on special educational needs. A joint student-faculty, two-year project (funded under Title III of the Elementary and Secondary Education Act) attempted to decrease problems of educationally handicapped students attending Bacone College (Ferree, 1971). Special and modified courses were offered in a variety of fields, and a follow-up study of 51 students indicated that Bacone students were capable of college work in other institutions. Norris and Overbeck (1974) described a survey given to assess the service needs of institutionalized mentally handicapped Navajos in the Arizona Training Program. The results of vocabulary and intelligence tests were used to provide a basis for the implementation of a rehabilitation service emphasizing motivation and direction for Navajo residents. Evaluation of the Navajo Education Resource Center, a support service for programs for handicapped Navajos (Caster, 1974); the Cherokee Project, a model demonstration program funded by the Office of Education since 1973 (1974); and the Pierre Indian School Project, a South Dakota boarding school (Streiff, 1973) all indicated a need for (1) greater familiarity with the needs and characteristics of learning-disabled children, (2) programs designed to meet these special needs, and (3) specificity of staff qualifications and competencies. Caster's report (1974) also included suggestions for a Navajo Education Resource Center study to determine the prevalence of handicaps among Indian school children in general.

A summary of education programs of the BIA (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 47, 1976) reported that, of 19,000 students in BIA-operated schools who need special-education services, only 4,000 were actually receiving some type of that service. Because of this, the bureau recommended adding a budget item for initiating and maintaining special-education programs. Legislation making education of exceptional Indian children mandatory was also suggested.

PRESCHOOL PROGRAMS

Two general themes seem to characterize the literature on preschool programs for Indian children. First, it contains a description of day care programs designed to enrich the educational opportunities of preschool children with a curriculum of culturally relevant materials and concepts that would make the transition to the "outside" world as easy as possible. Long, Canyon, and Churchman (1973) described a preschool program for 45 children in urban California that emphasized the traditional Montessori approach while exposing children to Anglo/white attitudes and values. No data have as yet been compiled on program effectiveness.

The "open" learning theory has also been applied to preschool curricula with proven success in which parental involvement and tribal support are stressed (Jessen, 1974). Project Head Start has initiated two day care projects which focus on cultural awareness, language, and sociocultural development (Jannusch and Big John, 1976). Both projects have demonstrated success; children did learn English and phonics, although they were later bored by the public school. Parental involvement with both white parents and the community as a whole was also initiated. However, factors such as academic and social adjustment to school, the quality of developmental goals on the preschool level, and the manifestations of the bilingual versus the non-bilingual approach have yet to be assessed.

The second major theme of the literature is that day care centers can be highly effective in providing for preschool needs--bilingual, bicultural, health, educational, and emotional. Evaluations by observation teams and workshops of established day care programs (Zeckhauser and Ruopp, 1973; Interstate Research Associates, 1973) and proposals for such preschool projects (Day and Moller, 1972) in Washington, Oklahoma, and Utah indicate that day care centers were successful in meeting the developmental needs of preschool children, their parents, and the community. Although opinions differed regarding the ages of children to be served and the qualifications and background of teachers to be employed (cf. Interstate Research Associates, 1972), there was general agreement among the evaluation participants that bilingual/bicultural curricula are potentially the most successful. Zeckhauser and Ruopp (1973) assessed such programs as carefully organized and highly stimulating for the children involved.

SUMMARY AND CONCLUSIONS

The literature represented in this section covered a wide range of programs dealing with specialized needs in Indian education. Most of the research done dealt with the implementation of vocational-technical programs, although attention was also devoted to adult education and the specific needs of exceptional children. The basic trend appeared to be that programs outside the academic atmosphere were more effective than those within the institutionalized school system. High levels of success were also attributed to day care centers. That there is a need for special programs is implicit in the program implementation or in the recommendations by the authors. Any other conclusions from the available research would be tentative at best.

STUDENTS

The majority of research studies done on Indian education are on the students themselves. The studies cover four basic questions: who the students are (culture, attitudes, self-concept, affective responses), what they want (career and educational aspirations), what they can do (intellectual and learning capabilities), and whether they do it (achievement, dropouts and persisters, and delinquency). These topics are discussed in order in the sections that follow.

CULTURE

Indian students are characterized by their cultural background. Each tribe holds certain values and attitudes; some of these are specific to that particular tribe, and others are held in common with other tribes. Thus, Indian students must deal with friction between tribes, as well as with difficulties caused by the interface of the tribal culture and the dominant culture. A general research question that must be addressed with respect to all these differences is whether school should erase culture, bringing all students to a common denominator and starting place despite their backgrounds, or whether it should enhance cultural differences.

Degree of Assimilation

Before this general question can be answered, however, it is important to know how much of Indian culture today's student embodies. Hathhorn (1971), interviewing students who had graduated from high school in 1962, concluded that the Indian has been assimilated into the dominant culture to a far greater degree than even the Indian realizes or is willing to admit. Other researchers, however, have found some evidence of culture survival. Moore (1972), for example, studying motivating factors in Navajo elementary school

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children, discovered that the children had a high degree of homogeneity in their values and attitudes. Their responses appeared to be culturally oriented and were influenced very little by differences in age, grade in school, or sex. The children indicated that they valued cooperation, close family relationships, respect for others, physical strength, excellence in sports, and story telling. In a study of Navajo adults, Graves (1974) found that they were very positively influenced by their culture. Culture-related attitudes included an extended future time perspective, a feeling of having control over their destinies, and a high achievement motivation. Because of traits such as these, Graves recommended that education programs not attempt to change their life-style.

Similar findings were reported by Norris (1973), who tested over 100 students in New Mexico to see if they had any knowledge of their traditional and current cultures. Their answers indicated the existence of a homogeneous set of cultural values, and showed no appreciable differences because of sex, amount of Indian blood, tribal affiliation, or class in school.

Granzberg (1973) discovered an interesting and consistent value among young Hopi children. Out of 21 children, 20 preferred to wait a week for a reward. When asked about this preference for delay in gratification, an older woman explained that Hopi children are trained to wait for a good harvest.

In studying the effects of culture, it is important to remember that each tribe is a separate culture, and that the word "Indian" has little consistent cultural meaning (Ballard, 1972). Goodey (1971) gives a similar warning, recommending that educators be aware of tribal dissimilarities in Indian students' values when planning educational programs. In a study of high school students in BIA schools, 400 students--including representatives from Navajo, Eskimo, Hopi, Pima, Papago, Alaskan, and Washington tribes--were given Gordon's Survey of Interpersonal Values. The findings showed significant value differences among tribes.

Contact with the dominant Anglo culture inevitably has some impact on Indian cultural values and attitudes. The question that concerns researchers is, "How much?" Bigart (1971), using the Thematic Apperception Test, found strong evidence of survival of the important psychological aspects of Indian culture on the Salish Flathead Reservation--so much so that even reservation whites shifted toward the Indian psychological traits. Boutwell (1972) found that school does not change the student's relationship with his tribe to any great extent. After conducting an attitude survey at a large Western university, he concluded that Indian students were still aware of their background, and that their ties to their home and culture were still significant. The successful Indian student, he concluded, need not become completely white-oriented.

Some authors, however, have supported the claim that school has a strong impact on culture. DeMontigny (1972), for example, commented that college works as an assimilative agent, erasing individual, culturally learned values and turning out people who are all alike. He did not support this assertion with any research study, however. Walter (1971) reported changes that occurred in the attitudes of participants in an adult basic education institute as a result of the program. On a measure of changes with respect to closed-mindedness versus open-mindedness, he found that changes occurred in both directions. However, he observed some interesting consistencies. With Anglos and Eskimos, when changes were made in the direction of open-mindedness, they were either relatively large changes or changes on several items; when they were made in the direction of closed-mindedness, they were either smaller or on fewer items. Changes made by American Indians, however, were the opposite: larger or more changes in the direction of closed-mindedness, and smaller or fewer changes in the direction of open-mindedness. Wright (1972) found that a college summer workshop for Indians tended to have a stronger impact on the career and family relationships of the more acculturated students than on those of the more traditional students.

Relationship between Acculturation and Success

A number of researchers have explored the question of whether acculturation is one of the factors that determine success in Anglo-oriented educational institutions. Bowlus (1974), reporting on a grand jury investigation of attitudes that Indian high school youths held toward authority figures, theorized that success within the school society depends primarily upon acculturation--a term that he defined as conformity to an implicit model of social behavior and personal conduct, and compliance to the will of the teachers. Those students who are the most "culturally different" from the white, middle-class model suffer the most, achieve the least, are the most alienated, and have the most negative feelings toward authority figures.

This relationship between success and acculturation was also explored by Cress and O'Donnell (1974), who surveyed the Pine Ridge Sioux in an extension of a 1966 study by Bryde. Students measured each other on, among other things, a popularity rating. Rankings were often based on the number of school activities the students participated in. The results showed Indians to be less popular than whites, with full bloods having lower ratings than mixed bloods. On the whole, there were few Indian successes in school; this was true for full-blooded males in particular.

Several researchers have confirmed that problems result from conflicts between the tribal culture and the dominant culture. For example, Allen (1972), after working with some 400 students in a BIA boarding school, concluded that, although Indians differed markedly both from other minority groups and among themselves, many of their problems stem from a situation faced by all minority groups: the difficulty of living and working in two cultural frameworks at the same time.

Kleinfeld (1973) concluded that the principal problems of Indian and Eskimo students occur at the secondary school and college levels. The problems faced by students at these levels generally are not due to a lack of the necessary cognitive or academic abilities, but rather to a lack of a sense of direction and purpose. This lack, according to Kleinfeld, leaves them vulnerable to negative social influences. A solution to the problem would be to design educational environments that would both create strong identities and develop a set of unified values that would organize and give meaning to the students' lives.

Little (1970) studied the social distance of Indians and whites in Maine. He found that the more intense the perceived competition between them, the less preference they had for association with one another, and the greater the hostility each group felt toward the other.

Schimmelpfennig (1971) explored the ways in which Indian students in Utah perceive cross-cultural accommodation. Data from interviews and questionnaires with about 50 students indicated that the students had problems with:

- Unfamiliar rules of conduct imposed by the dominant society.
- Loss of autonomy.
- Financial dependency upon foster parents.
- Feelings of inferiority and insecurity in the white environment.
- Conflicting patterns of behavior.

- Social distance between Indians and non-Indians.
- Language handicap.
- Anglo time concepts.
- Racial sensitivity.

To deal with these problems, Schimmelpfennig suggested that:

- Library holdings should be examined for possible deficiencies in materials relating to Indians.
- School administrations should encourage the presentation of information to Indians about the dominant culture.
- Remedial classes in grammar and speech should be provided.
- Students should be helped to secure part-time employment.
- Seminars should be conducted to help Indian children and their foster families make better cross-cultural adjustments.

He also recommended that further studies be undertaken to find out (1) which careers Indians pursue; (2) whether they fail in their expectations, and, if so, the reasons for failure; and (3) the perceptions of schools, foster families, natural families, Anglo communities, Indian communities, and L.D.S. Placement Program employees as to the problems that keep Indian students from succeeding.

Marginality

"Marginality" is the condition of having conflicting membership in two or more social groups or cultures without a genuine sense of belonging to either. Parmley (1973), using the Personal Orientation Inventory, the Health Opinion Survey, and an anomie scale, attempted to find out if rural mixed-blooded Indian students could aptly be called marginal. He found a less-than-expected correlation between his measures and was unable to draw any conclusions.

Marginality is also dealt with by Wright (1972), who found differential reactions to college between "traditional" and "generalized" (more urban) Indian students. Although both groups found that the college experience generated feelings of tension between them and non-Indians and caused them to feel separated from their families or tribes, traditionals were less affected than were the generalized students--both in their relations with kin and in their career choices.

In another study, French (1974) examined the extent to which the social maladjustment of females among the Eastern Band of Cherokees is a consequence of cultural ambivalence. For men, cultural ambivalence takes the form of overtly aggressive behavior; for women, there is a tendency to resort to sexual activity, thereby enhancing the biological role model. This behavior frequently results in problems such as early pregnancies, dropping out of school, childbearing out of wedlock, premature marriages, early divorces, and child neglect. French concluded that, "The marginal female, although having greater access to physical stigma resulting from social failure, has less of a chance to escape the anomic situation prevalent on the reservation, resulting in a continuation of these problems that are primarily transmitted through the primary family setting."

Conclusions

Although some aspects of Indian students' culture are adopted from the dominant Anglo model, there is evidence to support the contention that Indian values and psychological traits survive. School, however, places pressures on Indian students to give up these traditional attitudes. Students respond to this pressure in varying ways. Sex and family background are two important factors in determining the nature of their response. Students who become fully acculturated will probably have the easiest time in school, but it is not necessary for them to forget their origins to succeed in Anglo institutions.

ATTITUDES

Indian students vary in their attitudes toward school. Some elementary and secondary students feel positive toward it; others feel strongly negative. Although college students tend to be more satisfied than elementary and secondary school students, they still see room for improvement, and are often critical of their high school education.

Elementary School Students

Moore's (1972) study of Navajo elementary school children found that they generally felt positive toward school. They were also very conscious of grades. Barnett (1973), however, studying the attitudes of Eskimo children in elementary school, found that they did not have a favorable opinion of school.

High School Students

Students at Menominee High School (Sherarts et al., 1973) generally felt that their teachers were not prejudiced. They got along well at school and made friends with peers. Students at most grade levels, however, thought that Indian culture and language should be offered in school.

Students from Sherman Indian High School, however, were more critical (Sherman Indian High School, 1972). They perceived considerable conflict between tribes, felt academically unchallenged, and felt ill-prepared for college. In particular, they were unhappy that some of the courses that they needed for college were not even offered. They felt that their parents strongly supported quality education and wanted their children to do well, but had little understanding of what constitutes effective education. Teachers at the school also expressed strong criticism. They were unhappy about the way the school was run, the lack of communication, personal animosities that existed, and the general lack of purpose that characterized the school. They also indicated a lack of confidence in the students' ability to achieve at normative levels.

Problems at the high school level were also reported by Hathhorn (1971). His findings indicate that Indian high school graduates perceive their educational experience in a negative manner.

College Students

College students, on the other hand, are more positive in their evaluations. Boutwell (1972) conducted an attitude survey at a large Western university and found that Indians tended to value their education more than did non-Indians. Wooten (1972) studied Lumbee Indians and whites attending Pembroke State University. Indian students who commuted to school saw a kind of orderly supervision in administration and classwork. They felt that the environment was structured, but not repressive. They also saw their classes as being less difficult academically than did non-Indian dormitory students. In general, the Lumbees felt that personal benefits and prestige could be gained by going to college.

When Indian graduates of Black Hills State College were asked what they thought of their academic preparation for college (Hauck, 1971), they cited problems in two areas: (1) they felt that their high schools had not adequately prepared them for college, and (2) they felt that tribal leaders should have been more knowledgeable about college affairs. With respect to their college experience, however, they were satisfied with the education they had received; felt self-fulfilled--a feeling that they attributed in large part to their college degree; and were satisfied with their present occupation. In 1970, their gross income was between $10,000 and $16,000.

Conclusions

Indian students appear to value education, especially as it relates to upward economic mobility. There are significant variations in Indian perceptions of schools, however, and the research does not indicate whether they are due to tribal or local differences among Indians or to variations in the quality of the schools themselves.

SELF-CONCEPT

The self-concept of Indian students--both as a result of their backgrounds and as affected by school--is a much-discussed topic in the literature on Indian students.

Personal Self-Concepts

Several researchers have recorded how students characterize themselves. Dreyer (1970) found that, in comparison with non-Indians, Indians had a more clear-cut sense of phenomenal self, perceiving clear boundaries between what was individual and what was societal. Benjamin (1973) used three testing instruments--a form of the semantic differential test, a competence scale, and a teacher rating form--to determine the self-concept of 90 ninth-grade Eskimo subjects away from home for the first time. The subjects characterized themselves generally as being friendly, helpful, and kind, but as not being particularly strong, good-looking, or smart. Their ratings on the dimension of self-confidence showed that they felt most confident in making new friendships and least confident in their ability to speak in front of a group.

Similar positive self-concepts were reported by Sherarts in his study of Menominee High School students (Sherarts et al., 1973). His data showed that, in comparison with whites, Indian students characterized themselves as being more friendly, more adventuresome, freer of parental control, more casual, and more interested in happiness than in success.

Other researchers, however, decided that the Indians had a lower self-concept than did whites. Zirkel (1971), for example, concluded on the basis of a literature review that Indian students' self-concepts were significantly lower than those of whites. Hathhorn (1971) found that the Indian's low self-image is reinforced by his formal education. Brockman (1970) administered a questionnaire to students on the Flathead Reservation. He found that discrimination by both teachers and non-Indian students tended to lead to a lower self-concept among these students. Many students from prosperous Indian families, however, were not aware of any discrimination.

Racial and Tribal Self-Concepts

Several researchers have undertaken self-concept studies from the viewpoint of the race or tribe, rather than the individual. One such researcher was Beuf (1972), who, using racial dolls and pictures of families, studied several groups of Indian and white children from Arizona, Nebraska, and South Dakota. She reported significant performance differences between whites and Indians. Whites were better able to make doll families and picture families, and to match the Indian doll to the Indian picture. They also showed more concern with race. Indian children, while exhibiting slightly higher knowledge of racial terms, showed lower own-race preference and were less accurate in identifying themselves racially. Age increased the tendency to prefer white in both groups. The lack of correlation between racial awareness and own-race preference indicated to Beuf that there may be negative affective responses by Indians to their racial status.

Findings of other researchers, however, have not agreed with Beuf's. Barnett (1973) studied positive and negative attitudes among Eskimo elementary school children. He discovered that Eskimo students have neutral feelings for other races but more positive, nationalistic feelings for their own people. Similarly, Cooper (1971) tested over 150 Indian students and about 750 students of other ethnic groups in New Mexico and Texas, using an 11-item semantic differential test. He expected to find weaker self-concepts among the minority students. However, the data revealed that each ethnic group saw itself in a favorable light and saw the other groups less favorably. In the same vein, Zirkel (1971) commented that ethnic group membership could be used to enhance self-concept, as has already happened with Blacks.

Effect of School Type on Self-Concept

The kind of school that the Indian student attends is one factor in determining his or her self-concept. Several articles compare students from integrated public schools with those from segregated BIA schools. Corrigan (1969) used the Tennessee Self-Concept Scale (TSCS) to determine the self-concepts of almost 250 Indians from public and BIA schools. He found that Indian students from BIA schools scored significantly higher on the Moral-Ethical Self scale than did Indian students from public schools. However, comparing the ratings by sex, he found that females from BIA schools and males from public schools consistently held the most positive self-concepts. The data also showed that for 9 of the 11 TSCS scores utilized, the mean scores of the Indian students were significantly lower than those of the normative group, and that the Indian students displayed significantly greater conflict. The Indians did not, however, differ from the norm on total variability.

Another survey (Factors Affecting Attitudes, 1971) compared over 2,000 students from three BIA schools and from Phoenix Union High School, an inner-city public school. The results showed that, while students in the three Indian schools had generally positive attitudes, Phoenix Union students showed more favorable attitudes toward themselves. Martin (1974), however, reported that the length of time spent in BIA boarding schools did not seem to affect Indians' self-confidence rating.

Benjamin (1973) compared attitudes of Eskimos at four different schools. He found that, although total scores did not vary significantly, scores were substantially different in the specific areas of student self-ratings, teacher evaluations, and sex differences.

Martig and DeBlassie (1973) found that Indian and Anglo boys in New Mexico public grade schools had similar self-concept ratings. Both groups of boys, however, scored lower than the girls. The authors concluded that self-concept had nothing to do with either race or school achievement. Lammers (1970) compared two groups of Onondaga Indians--one in a segregated elementary school and the other in a desegregated one--with whites at the same schools. Self-concept was measured by the Self-Social Symbols Tasks and the Self-Concept of Ability Scale. The results showed no difference between the groups in self-concept.

Withycombe (1970), however, studying Paiute children, did find a relationship between segregation and self-concept. She used the This Is Me Scale and the Bills Index of Adjustment and Values Form EL on 108 subjects, both Paiute and white. Paiute children scored lower on self-concept and perceived themselves as significantly less accepted by their peers when they attended segregated schools. Furthermore, both self-concept and other-perceived social status dropped for the Paiute children as they advanced in school. Withycombe's findings showed that sex did not affect the scores of the Paiute children, but did make a difference in the scores of the white children: white males gained a more positive self-concept from first to fifth grades, while that of white females became more negative.

Effect of School Program on Self-Concept

A few researchers have evaluated the effect of school programs on self-concept. Those studies that relate self-concept specifically to reading achievement are dealt with in the Curriculum section; the others are discussed below.

Weisberger (Weisberger et al., 1972) found that an educational film shown to Indian children on the Pine Ridge Reservation caused them to become more self-critical. The authors concluded that materials should be used carefully, and presented three specific warnings:

- Materials prepared for one ethnic group should not be used for other ethnic groups.
- Materials should not be assumed to have the same impact on all students of a given ethnic group.
- Any single educational experience should be viewed as an initial activity to be expanded on later.

Arneklev (1973) studied students who participated in an individualized physical education program in a Navajo boarding school, comparing them with a control group of students who had not taken the course. Using the Tennessee Self-Concept Scale, he pretested and posttested both groups on self-concept and defensiveness (he used the "openness to self-criticism" scale as a measure of defensiveness). There was no difference between the treatment group and the control group with respect to self-confidence, but the treatment group did become more defensive. On the other hand, Wright (1972) found a college workshop to have a positive effect on the self-confidence of Indian students, with an especially positive effect noted in the case of traditional students.

Conclusions

Research on self-concept has produced contradictory findings. Most of the studies seem to agree that while

Indian students test at lower than normative levels with regard to their personal self-concept, they hold their own ethnic group in high regard. They characterize themselves as being friendly, helpful, easy-going, and more interested in happiness than in success, but not as being particularly smart, strong, good-looking, or at ease in front of groups. The type of school attended--a segregated BIA school or an integrated public school-does not appear to affect self-concept. With respect to specific school programs, it was found that even new and innovative programs do not necessarily have a positive effect on the Indian student's self-concept, and that sometimes these programs actually make the student more defensive or self-critical.

AFFECT

It has been demonstrated that the behavior of Indian children in the classroom is affected by emotional factors. Behavior evaluations and tests that do not take these factors into account may lead to unfair conclusions.

Dlugokinski (1972) attacked the stereotype of the silent Indian, saying that Indian students are not silent and passive by nature. Rather, this trait may be a response to the educational and social problems they face at school. Indian students have great needs in the areas of personal awareness and social communication. Dlugokinski suggested a project to teach students counseling and listening skills as one means of opening avenues of communication.

Kleinfeld (1973), studying Alaskan students, found that a positively perceived classroom climate can increase the verbal participation of both Indian and Eskimo students.

In other studies, Kleinfeld (1973, 1974) found that nonverbally communicated warmth (smiling, close physical proximity) had a positive influence on learning and on students' performance on intelligence tests. Direct eye contact, however, while endorsed by white counselors, is considered cold and disrespectful by Alaska Native students. Kleinfeld also found that familiarity with the test-giver improved scores.

Pusey (1973) reported a relationship between punitive threats and hostility in students in an Indian boarding school. Punitive threats that were environmentally realistic served to elicit and increase hostile behavior. These data, then, suggest that the use of punitive threats in Indian educational environments should be avoided.

The performance of Indian students in school, according to the research on affect, is positively influenced by warmth and open communication, and negatively influenced by punitive threats. Although there are no studies comparing Indian reactions in this area with those of white students, the researchers claim that, because of the traditionally low performance of Indians, it is possible that these affective conditions are more important to them than to whites.

CAREER AND EDUCATIONAL ASPIRATIONS

If the theory of Indian control of Indian affairs is to become a reality, Indians are needed in a number of job areas, such as teaching, counseling, and health care. Bolt (1974) reported that Indians are rarely historians, artists, musicians, poets, writers, or administrators. There is a great need (Bylund, 1970) for bilingual workers, particularly in assisting white businesmen on reservations. Health professionals are also in high demand (Attitudes and Interests of Indian People regarding Health Careers, 1972). Since these jobs all require a substantial amount of education, it is important to find ways of encouraging Indians to aspire to both high levels of education and professional careers.

Use of Interest Inventories

A few researchers have used interest inventories to link students' interests to possible careers. Koss (1971) administered the Vocational Preference Inventory (VPI) to 161 Indians in North Dakota and compared their scores to those of whites. He found several significant differences; among them, the fact that Indian girls scored lower on the artistic scale than did non-Indian girls, and Indian boys scored higher on the self-control scale than did non-Indian boys. As might be expected, he found a positive relationship between the total occupational aspiration scale and the VPI status scale scores.

The Kuder General Interest Survey has been used by several researchers. Robinson (1973) surveyed 73 Indians in Nebraska and found that Indian students scored significantly higher than white students in the artistic category, with white students scoring higher in the outdoor category. Spencer, Boudreaux, and Mullins (1976) used the Kuder survey to assist with the Choctaw Career Education Program, a program that uses counseling and role models to raise career aspirations. The authors found that scores were highest on the social service, artistic, clerical, and musical scales. Social service and clerical interests were the same for both sexes; males, however, showed more interest in art and music, while females were more interested in outdoor activities. A previous study of the same group had indicated that no one aspired to be counselor, tribal program administrator, or school administrator. A study of Apache subjects showed similar levels of artistic and clerical interest but a low interest in social services. Another study, using students enrolled at Arizona State University, showed similar scores in clerical, social service, and art interests, although males were more interested in science and less interested in clerical activities than were female students.

Implications of surveys such as these include:

- A need to broaden Indians' awareness of the full range of social service occupations to include those that are particularly useful for the tribes.
- The importance of including art in the curriculum.
- The need to question the value of costly mechanical training programs for which the students have little interest.

The surveys also produced several recommendations relating to the administration and interpretation of tests. These included: (1) reading questions aloud to help those students who have reading problems; (2) counseling students individually when interpreting results; and (3) using caution in drawing conclusions from only one test that has been standardized on the general population.

Other Methods of Assessing Career Aspirations

While the researchers discussed in the previous section used tests that mask the particular job and education goals of students, other researchers have done more straightforward assessments. Forslund (1974) surveyed about 120 Indians on the Wind River Reservation and found that, in comparison with whites, a significantly higher proportion of both male and female Indian youths:

- Had doubts as to whether they would complete high school.
- Did not plan to attend college.
- Felt they were not as smart as their peers.
- Received lower grades in school.
- Had dropped out of school.

In contrast, a survey of 439 Pima students (De Hoyos, 1971) showed educational aspirations to be especially high. However, the survey pointed out other problem areas:

occupational aspirations were low, materialistic value orientations were particularly low, and the pro-Anglo orientation was not high enough in view of the fact that most opportunities for social mobility exist outside of the reservation.

Factors Influencing Career Aspirations

High school students surveyed by the Department of Health, Education, and Welfare (Attitudes and Interests of Indian People regarding Health Careers, 1972) exhibited a strong interest in health-related work. In making this choice, students appeared to be influenced by the desire to help Indian people. However, the researchers identified certain problems that would interfere with the students' ability to attain these career goals: students showed relatively little detailed knowledge of health work, and former students now in health occupations reported significant weaknesses in both the quality and availability of health-related academic courses.

Spencer (Spencer et al., 1974) found that career aspirations of Mississippi Choctaw students were limited to locally visible and relevant jobs and to occupations that other Choctaws had attained. This fact suggests that any rating of aspiration levels should take into account the relative degree of prestige assigned to occupations by the particular group under study. Further research is needed to examine the degree of prestige assigned to different occupations by isolated populations.

There is some indication that English teachers have a strong influence on educational aspirations, and that students who are less academically oriented and more likely to drop out will approach these teachers more than teachers of other subjects (Larson, 1972).

Of apparently even greater significance for aspirations is the family. Larson (1971) reported on a study of 119 Indian youths in Montana rural schools. He found that parents are perceived to have the most influence on students' school work and that siblings are next in importance. Robinson's (1973) Kuder survey revealed that both Indian and white students whose fathers were employed in high occupational classifications scored significantly higher in the area of scientific interests than did those whose fathers had a low occupational status. Furthermore, Larson (1971) discovered that differences between Indian students and non-Indian students are not as great as those between low- and high-income students in either ethnic group. He did find greater goal deflection among Indian students, however: while 48 percent of high-income Indian students aspired to go to college, only 33 percent expected to (for high-income whites, the respective percentages were 61 percent and 54 percent).

Conclusions

Career, and hence educational, aspirations appear in many cases to be quite high among Indian students. Jobs in which Indians consistently show interest include those in artistic, clerical, and social service fields. Helping other Indians is a factor of particular importance in determining career choice. Indian students' expectations are affected, however, by the career levels that they have seen their parents and peers attain. Among those individuals who have the greatest effect on Indian students' career aspirations are parents and high school English teachers. An awareness of the latter fact is of particular importance for reaching potential dropouts.

Much more remains to be done if Indians' needs in this area are to be met. In particular, Indians should be given more detailed information on (1) job markets, (2) educational preparation, (3) planning for careers, and (4) the range of jobs available and the duties involved in each.

INTELLECTUAL ABILITIES

The intelligence of students is clearly crucial to their performance in school. Two basic problems in this area faced by educators of Indian students are (1) assessing intellectual capabilities of these students and (2) capitalizing on their particular intellectual strengths. The research that has been done on the intellectual abilities of Indian students includes comparisons of Indians' scores among different tribes and with national norms, possible correlations between different intellectual components, evaluations of the usefulness of different tests, and assessments of the cultural fairness of intelligence tests and their usefulness in predicting academic performance. The research covers not only intelligence tests, but also related measures. These include tests of psycholinguistic abilities, such as the Illinois Test of Psycholinguistic Abilities (ITPA). This type of test is designed to measure Indian students' ability to learn English.

Comparison of Indians with National Norms

Indians have historically scored lower than the norm on intelligence tests. Crandall (1970) gave the Wechsler Adult Intelligence Scale (WAIS) to Indian and white students in Alaska. The difference between the two groups was significant: the non-Indian mean was 117.5, while the Indian mean was 99.4. The difference between the verbal and performance scores of the Indian group was also significant. Peck (1972) assessed 105 white children and 105 Indian children in Montana, using the Wechsler Intelligence Scale for Children

(WISC). The total white sample scored significantly higher than the total Indian sample on all subtests except for block design and object assembly within the section on performance. Indian males, however, scored significantly higher than the Indian females on the picture completion and picture arrangement subtests.

Teubner (1972) tested intellectual abilities using the Torrance Tests of Creative Thinking. She found that non-Indian children had a significantly higher mean score in verbal flexibility than did the Indian children. She also found that Indian students in an experimental program called New School had significantly lower mean scores on figural fluency and figural elaboration than did those not in the program.

O'Boyle (1972) tested college and seventh-grade children and found that the Native Americans were less able to synthesize than were the other groups. This finding appeared to indicate the existence of a more concrete cognitive style on the part of the Indians. There was also a significant difference between the rural and college groups, with the rural group having a more concrete cognitive style than the college group. Finally, there were differences between seventh-graders and college students. While all seventh-graders were equally present- and future-oriented, college students tended to be more future-oriented.

Griese (1972), drawing conclusions both from experience teaching Alaska Natives and from an anthropological study, takes the stand that the ability of Indians to think concretely rather than abstractly is a product of culture. Those who have lived in close proximity to white settlements tend to think more abstractly, while those less acculturated think more concretely. This contradicts Jensen's theory of genetic primacy. Thus education could have an effect on the Natives' intellectual processes.

Biobehavioral Correlates of Intellectual Abilities

Several researchers have studied biobehavioral correlates of cognitive abilities. Blanchard (1973), for example, tested a sample of 116 Native Americans, including Rio Grande Pueblos, Mescalero Apaches, Navajos, Utes, and Zunis. He used the WISC Perceptual-Cognitive-Motor (PCM) test, the Wide Range Achievement Test (WRAT), and the Illinois Test of Psycholinguistic Ability (ITPA), together with health examinations. He also used a behavioral rating scale developed by Stott to obtain teacher ratings of behaviors interfering with the learning process. Results of the factor analyses showed interdependencies among PCM and biobehavioral variables. The research also demonstrated significant tribal differences on biobehavioral tests, suggesting the need for additional studies to determine which biosocial correlates of learning are specific to each tribe. Finally, the research showed Stott's behavioral classifications to be valid and useful means for assessing behavioral disabilities detrimental to the learning process.

Lowry (1970) investigated differences in visual perception and auditory discrimination skills between white and Nez Perce kindergarten children in Idaho. While the national average was 100.95, the Indian children scored in the lowest quartile of the perceptual quotient at 89.80.

Jayogopal (1970) administered the WISC to junior-high-school-age children of several ethnic groups. He found that Navajos scored significantly higher than Mexican-Americans in emotional set, visual set, and fine motor acts, and higher than Anglos in fine motor acts. Navajos also scored higher than both other groups on the coding performance subtest. Anglos, on the other hand, scored significantly higher in visual set than did either Navajos or Mexican-Americans.

Visual Memory

Visual memory has been the focus of several studies. Their results indicate that some Native groups do quite well in this area.

Bland (1970) surveyed 1,736 Inupik children, using the Squiggle Test. They showed a significantly greater visual memory than did urban Caucasian children.

Kleinfeld (1970) used a psychological test of perceptual skills and an exploratory study of image memory to test cognitive strengths of Eskimos, but was hesitant to drawn any conclusions from her small sample. The next year she published the results of a study based on the use of a visual memory test adopted from the Sullivan Squiggle Test (Kleinfeld, 1971). The results of this study showed that Eskimo children exhibited a greater visual memory than did urban Caucasians, thus confirming Bland's findings. Kleinfeld postulated that the skill resulted from both early socialization and genetic factors. In a later paper (Kleinfeld, 1973), she used Jensen's work on Blacks to support the hypothesis that genetic factors are primarily responsible for the difference in skill levels, suggesting that Arctic conditions--where fine discrimination between textures of snow and ice can mean the difference between life and death--have acted as a selection factor in the survival of Eskimos. She also noted the Eskimo linguistic emphasis on spatial irregularities, to the exclusion of abstract regularities.

McCartin and Schill (1974) tested and found support for the hypothesis that Indian students will demonstrate higher achievement when concepts are presented in a visual, rather than an oral or textual, manner. This study represents an extension of the concept of visual memory as a cognitive strength among Indians.

Kirk (1972) summarized the results of several research studies conducted between 1968 and 1970, all of which were based on the ITPA. Superior ability in short-term visual sequential memory was demonstrated; Kirk attributed this both to different childrearing practices and to hereditary differences. He pointed out that, because of their cultural background, Indians tend (1) to rely a great deal on vision, (2) to have concise speech patterns, and (3) to look and see rather than to hear and talk.

Reasons for Low Intelligence Test Scores

Many researchers have attempted to determine the reasons that many Indian students receive low scores on intelligence tests. One researcher, Crandall (1970), used the Value Orientation Schedule to measure relational and temporal orientations and conflicts. She found that those students who were more individualistically oriented, more intellectually oriented, and more able to abstract performed better on the WAIS. Likewise, those Indian students who had more feelings of tribal conflict scored higher on the WAIS. She also found that Indian students who were future-oriented tended to score higher on the WAIS than those who were present-oriented; for non-Indians, however, the reverse was true.

Herman (1971) studied personality dimensions of Ojibway (Chippewa), Cree, and white students. Test scores on 48 variables indicated that by far the greatest differences existed between white and Indian groups, although about half of the variables were rejected as being unsatisfactory from a cross-cultural standpoint. The relationship between personality and cognition for Indian and white groups remained unresolved by this study. Herman suggested, however, that since the personality factors unique to a culture are correlated with particular cognitive factors within that culture, the degree to which the two sets of factors are related is not the critical issue. Rather, it is the personality constituents themselves that can have an adverse influence on the success rate of Indians in school.

Hollingshead (1971) looked at the WISC patterns of Indian students who read at and who read below their grade level to examine the relationship between reading skills and intelligence test scores. Both retarded and nonretarded readers (as classified by the Gates-MacGinitie Reading Test) scored higher on the performance scale than on the verbal scale. Both groups exhibited weaknesses in vocabulary and strengths in picture completion, block design, and coding. A comparison by sex showed males to be about 10 points lower than females on the verbal scale, but better than females on the performance scale. The mean full scale for each group, however, was within one point of the other. An analysis of the scores of students who were of average intelligence but who had difficulty reading showed weaknesses in information, comprehension, arithmetic, similarities, and vocabulary.

Levensky (1970) attempted to avoid the verbal variable in intelligence testing by using the Draw-a-Person (DAP) test. Remarkably high scores were obtained; these were attributed to a cultural emphasis among Hopis on art skills of boys. Use of this measure as an intelligence test was not recommended.

Shutt (1972) also wanted to avoid verbal testing. He utilized the Hiskey-Nebraska Test of Learning Aptitude, which requires no verbal instructions or verbal responses. Use of this test, along with family participation, resulted in much more satisfactory placements than had been obtained with other instruments and evaluation techniques.

Appropriateness of Different Tests for Different Groups

Hollingshead (1971) attempted, as have other researchers, to determine which tests are most useful in evaluating Indians' intelligence. Comparing the performance of 71 Oklahoma Indian students on the WISC and the Chicago Non-Verbal (CNV), he concluded that differences do exist in the performance of Indian youth on the two tests. The students' WISC scores were lower than their CNV scores in all areas except performance. Males, however, had a higher performance correlation on the WISC subtests than did females. In general, the results showed the WISC to be a better indicator of performance than the CNV for Indian males; however, these results may not be equally applicable to all tribes.

A study conducted by the BIA in the Southwest (U.S. Department of the Interior, BIA, 1966) attempted to identify tests that are useful in diagnosing retardation among Indians. Their conclusions were that the Goodenough-Harris Draw-a-Person test was appropriate for measuring conceptual growth and maturation, but that the WISC, Bender-Gestalt, Porteus Maze, Thematic Apperception Test, and Progressive Matrices were irrelevant.

Bernardoni (1973) discussed problems involved in administering intelligence and achievement tests to bicultural students. He observed that it is unrealistic to expect an intelligence test to be magically "fair" to all cultures, and that some tests are more "fair" than others with respect to particular bicultural groups. For instance, the Arthur Performance Scale and the Goodenough-Harris Draw-a-Person test are fair to certain Hopi and Navajo Indian groups. However, the use of these tests has been limited because they do not correlate highly with the children's academic achievement. Bernardoni listed several guidelines for giving intelligence and achievement tests to bicultural students:

- A particular test should not be given to bicultural students simply because it is routinely given to all students.
- Tests should be given individually to control for test-taking behavior.
- A test that separates verbal and nonverbal scores may be more descriptive of the relative ability of upper-grade bicultural students, but such tests should be used with reservation and in conjunction with achievement tests.

Additional Variables Affecting Test Performance

Several researchers have discussed variables other than the tested variables that affect performance on intelligence tests. McDiarmid (1971) reported that the two greatest problems affecting test reliability and validity, as well as the validity of test interpretation, are language and test motivation. Kleinfeld (1971), after conducting research using a teacher-pupil rapport scale, concluded that nonverbally communicated warmth helps to improve students' performance on intelligence tests. Heath and Nielsen (1974) criticized the testing of Indians on the grounds that the achievement and intelligence tests have been norm-referenced, rather than criterion-referenced, and have not accounted for cultural differences. For evaluating the success of Indian education programs, they recommended (1) community participation, (2) avoidance of norm-referenced and IQ tests, and (3) measurement of tangible criteria.

Because of the occurrence of problems such as the improper placement of culturally different children in classes for the mentally retarded, the Office for Civil Rights issued a memorandum to school districts outlining procedures to avoid discrimination (Gerry, 1973). Among its recommendations were:

- The school district should gather sociocultural data and make adaptive behavior observations.
- The teacher who refers a student should also gather these data.
- Students should be given a thorough medical exam.
- Attempts should be made to ensure that, when parents are asked for their permission with regard to testing and special education programs for their children, the requests are communicated in the parents' language and are fully understood by them.

- Students should be familiarized with the testing procedure.
- Testers with cultural sensitivity should be employed.
- A representative board of parents should make sure that cultural factors have been adequately accounted for in special education placements.
- Students currently enrolled in special education should be retested.
- Yearly reevaluation of students in special classes should be conducted.

Psycholinguistic Tests

Another type of test used by several researchers to measure cognitive ability is the Illinois Test of Psycholinguistic Abilities (ITPA).

Lombardi (1969) tested 80 Papago grade school children with the ITPA. The results were compared both with the normative population and according to whether the children attended segregated or integrated schools. The Papago children performed significantly lower than the standardized population on all tests except for visual sequential memory, on which they did better than average. They showed a learning disability in the auditory-vocal channel areas, and, in general, displayed a decline in psycholinguistic abilities as they advanced from first to third grade. This trend was greater for the segregated school group, however. The part of the test on which they showed the greatest decline was the section that presupposes exposure to standard American verbal expressions. It was concluded that a greater emphasis should be placed on increasing the Papagos' psycholinguistic abilities, on fostering language development before the children enter the first grade, and on providing remedial work to correct the auditory-vocal channel deficit. It can also be inferred from the findings that, in comparison with segregated schools, those that are integrated show an overall better performance on psycholinguistic abilities, but they show little alteration in score patterns.

Kuske (1969) tested the psycholinguistic abilities of Sioux children, both mentally handicapped and normal, as well as those of mentally handicapped non-Indian students, and compared the scores of all three groups to the normative scores. The normal Sioux Indian children's performance was significantly inferior to the ITPA norms on all subtests except those on visual closure and sound blending. Matched on the basis of mental age, mentally handicapped non-Indian children performed below normative standards on all but the manual expression subtest. Surprisingly, the mentally handicapped Sioux did better than the normal Sioux children on the visual association and visual sequential memory subtests, although they performed lower on the sound-blending test. A comparison of the two groups of mentally handicapped children showed the Sioux as scoring higher than the non-Indians on the visual association, visual closure, visual sequential memory, and sound-blending subtests.

On the basis of these data, Kuske (1969) then drew up psycholinguistic profiles of the three research groups. The profiles showed that:

- Normal Sioux Indian children revealed a higher mean scaled score at the automatic level than at the representational level, a greater subtest variability at the automatic level, a relative psycholinguistic strength in the visual closure area, and superiority through the visual-motor channel.
- Mentally handicapped non-Indian children revealed a higher mean scaled score at the representational level, consistent subtest variability at both levels, a relative psycholinguistic weakness in the auditory closure area, and a superiority through the visual-motor channel.

- Mentally handicapped Sioux Indian children revealed equal mean scaled scores at the two levels of organization, greater subtest variability at the automatic level, and superiority through the visual-motor channel.

Kemery (1970) administered the ITPA motor encoding subtest to a population of 50 Indian students (Brule Sioux) who were five to nine years of age. All of the students were able to demonstrate the functions of a toy hammer, a toy pitcher, and a toy gun. It was only when they had to do the same with pictures that they had difficulty. As a partial explanation, the author cited the children's bashfulness with strangers, especially in a situation where they were asked to perform. In conclusion, Kemery advised that, if the ITPA is going to be used as a tool to diagnose language disabilities, it is necessary to administer the whole test. One subtest can only provide minor information in this area.

Snell (1970) also tested Sioux children against the norms for the ITPA, but he used the whole test. He studied Brule Sioux children of the same age and at the same school as had Kemery. His findings indicated that the overall performance of this Indian group missed that of the normal population by only 11 to 12 percent, and that many Indian students are top performers in vocabulary and associative word meanings. He concluded that the ITPA can be a valid diagnostic instrument for determining individual strengths and weaknesses of Sioux Indian students, if (1) it is understood that the scores may be skewed slightly toward the low end of the achievement scale, and (2) the test is used as part of a battery of tests. He also recommended that further research be conducted to compare Indian students' ITPA scores with those of the normal population.

Conclusions

The testing of Indian students for intelligence and other cognitive abilities appears to be a controversial topic, judging from the number of articles published in this area. Researchers generally agree that Indians do poorly on the Weschler intelligence tests, which are the most commonly used instruments. Indian students tend to score lower than the national norms on ability to synthesize, visual perception, auditory discrimination, vocabulary, picture completion, block design, and coding. They do well, however, on visual memory and fine-motor acts.

There is some evidence to indicate that these tests are measuring cultural knowledge and English language skills rather than innate intellectual ability. This situation has led to problems such as placement of culturally different students in classes for the mentally retarded, and low expectations concerning their performance levels.

Tests that accurately measure Indians' intelligence have not been definitively identified, but the Goodenough-Harris Draw-a-Person test appears to be a useful measure. Intelligence tests have tended to be inaccurate in predicting Indian students' academic performance, possibly indicating that there are variables other than intelligence that affect grades and achievement test scores. Some of the variables that influence intelligence test scores arise from the students' unfamiliarity with the testing procedures and from their discomfort with the situation. Variables that have a positive effect on test scores--at least with respect to the Weschler test--include an individualistic orientation, feelings of tribal conflict, an intellectual orientation, and the ability to abstract at high levels. Indian students who are of average intelligence but who have difficulty reading tend to score low in information, comprehension, arithmetic, similarities, and vocabulary subtests.

Aspects of intellectual testing in which needs remain to be met include (1) research into intelligence tests to find or develop tests that measure intelligence, rather than knowledge of the English language and the dominant culture; (2) the relationship between a student's knowledge of the English language and culture and his or her achievement in school; (3) the significance of good scores on visual memory; (4) the impact of testing situation variables on test scores; (5) the impact of personality factors on test scores; (6) identification of Indian norms for tests of intelligence and psycholinguistic abilities; (7) identification of students who have been improperly placed in classes for the mentally retarded; and (8) implementation of procedures to prevent such improper placement from occurring.

LEARNING

Learning processes are closely related to intelligence and cognitive style. A number of studies have been done to determine if Indian children learn in a different way from other children and what modes of presentation can improve their learning.

Two researchers (Maybee, 1970; Cole, 1972) found that Indians' learning performance does not differ from the norm. Maybee tested four- and five-year-old Sioux children with the Vane Kindergarten Test and found no significant difference from published norms on cognitive, affective, and psychomotor modes of learning. He found the test to be helpful as a diagnostic tool, as a projective educational aid, and as a measure of intelligence for Sioux children. Likewise, Cole's analysis of normally intelligent white and Indian children in Oklahoma showed no statistical difference between the two groups in the number of trials and errors.

Boutwell (1972) used a nonverbal concept-acquisition task on 96 Indian college students to study the conditions under which the most learning took place. He found that subjects receiving the easy-to-hard sequence did significantly better on the performance test than those who were given the hard-to-easy sequence, and that the groups receiving memory support made significantly fewer errors on the performance test than did those who did not receive such support.

Learning principles with respect to Indian education constitute an area in which much additional research is needed. Cooper and Norris (1970) called attention to the need for research in this area, as did the BIA, which issued a bulletin outlining specific research needs (Styles of Learning among American Indians, 1976). These included: (1) background research to study styles of learning; (2) language consensus; (3) searches of ethnographic literature; (4) surveys of current work; (5) studies of beliefs systems; (6) research on language use and function; (7) analysis of language acquisition; (8) determination of derived and basic variables in observational studies; and (9) development of tests related to cognitive styles.

From the few studies done, it appears that Indian children's learning processes are no different from those of other children. However, the BIA feels that there is a great need for more research in this area.

ACHIEVEMENT

According to the common measures of scholastic achievement, Indian students generally do not perform as well as whites. Some researchers have taken issue with the tests themselves. They feel that the standardized norms are based on white, middle-class students' knowledge of their culture and language, and consequently are not "culture fair" for Indians; they also feel that teachers are not objective or fair in their grading practices. Other researchers, assuming that the tests are at least indicative of trends, have attempted to find correlates of the Indians' low achievement.

Trend toward Low Achievement

In 1971 the United States National Commission on Civil Rights found that "minority students in the Southwest--including American Indians--do not obtain the benefits of public education at a rate equal to that of their Anglo classmates. This is true regardless of the measure of school achievement used." The Commission evaluated school achievement by using five standard measures: (1) the number of years the students remain in school; (2) their reading achievement; (3) the number of grade repetitions; (4) the relationship between age and grade level; and (5) participation in extracurricular activities. The results showed that Indians achieve at a lower rate than Anglos; they drop out of school earlier; their reading achievement is poorer; they repeat grades more frequently; they are older in relation to their grade level; and they participate in extracurricular activities to a lesser degree.

Milam (1972) studied the achievement of Indian children in the Phoenix area. These children, representing the Pima, Apache, and Hopi tribes, were significantly below the norms for the California Achievement Test (CAT) at all levels except for third and fourth grades. Females, however, tended to score slightly higher than males. It was noted that third-grade Hopi pupils who received individualized instruction scored within the norms for their grade level.

Achievement data on Oklahoma Indian students have been gathered three times, as reported in the Oklahoma Indian Education Needs Assessment (1976). All studies have shown that these students are achieving below national norms. One study, conducted by the Oklahoma State Department of Education (1970), showed Indian students as ranking between whites and Blacks in all grades tested (fourth, eighth, and twelfth). The second study, a JOM evaluation of programs in Eastern Oklahoma (1974-75), showed that Indian students tended to score somewhat below the total cohort group on achievement testing data. The third study, a Needs Assessment Project (1976), compiled scores from 12 schools in Oklahoma. The results showed that Indian students tended to score somewhat below the class average in reading and mathematics in both middle school and high school.

Hendra (1970), however, found a different trend. While studying motivation of Indians at a Michigan school with a dropout rate of 80 percent, he discovered no significant differences between Indians and whites in either achievement or intelligence.

Achievement Test Deficiencies

Hollingshead (1971) was dissatisfied with the correlation of two achievement measures, the CNV and the WRAT. He tested 70 Indian children in Oklahoma, all 13 years old. The total WRAT scores showed greater deviation below the mean than did the CNV scores, although females scored above the mean in both tests. WRAT scores showed the greatest retardation to be on the arithmetic subtest for both males and females. A comparison by sex showed that females scored lower than males in arithmetic, while males scored lower than females in reading.

Jaeger (1973) dealt with the cultural bias of standardized tests. His subjects were students at the Intermountain Indian School, a BIA boarding school. Although his test instruments did not approach the 50 percent criterion level and, therefore, were inappropriate to the population assessed, Jaeger found that they could be used as a starting point for curriculum evaluation. He also felt that the fact that the accuracy index of the tests was well below the first quartile implies the need for either the establishment of local norms or the development of appropriate culture-free instruments.

Statistical Problems

Statistical problems relating to achievement tests have been noted by two researchers. Walker (1970) reported that a search of the data showed that few broad comparisons of Indian educational achievement can be made due to the lack of good statistical data. Published statistics are inadequate in three respects: they are not comparable, they do not cover many significant areas, and they are not up-to-date. Walker suggested that more comparative ethnohistorical research should be done on Indian education, since history is the only adequate test of educational policies and programs whose effects extend over generations.

Bowlus (Bowlus et al., 1973) examined the success and failure of 157 Indian children. He concluded that two primary sources of information on student achievement--psychometric instruments and teachers' ratings of performance--were unreliable. The existing psychometric instruments do not provide an adequate measure of any of the relevant factors; furthermore, they are badly contaminated by factors that are both irrelevant to school performance and negatively related to socioeconomic status. Likewise, teachers' ratings of performance and potential are influenced by factors irrelevant to actual academic proficiency.

Correlation of Achievement Test Scores with Grade-Point Averages

Another measure of achievement is grade-point averages. Hendra (1970), studying Indians and whites in Michigan, found significant differences in their grade-point averages. He attributed these differences to (1) lack of school personnel sensitivity, (2) poor attendance, (3) limited curricula, and (4) poor study facilities at home.

Fish (1969) studied the grade-point averages of about 250 Minneapolis students, 62 of whom were Indian. She noted discrepancies in teachers' marking habits, but found no bias against lower-class students or minority races. She also found differences between students' grades and their scores on IQ and achievement tests.

Bass (1971) compared the academic achievement of students in both public and BIA schools. He found no consistent differences, but a substantial amount of variation in the rankings.

Correlation of Achievement Test Scores with Other Factors

Some researchers have tried to show a correlation between low achievement and grade level, school type, family background, and personal abilities.

Grade level. It has been noted by two researchers, for instance, that Indian students' performance deteriorates after the sixth grade (Havighurst, 1970; Smith, 1970). Smith used the Stanford Achievement Test on students in one school district and found that, while there were no significant differences between achievement of white and Indian students in the fourth grade, such differences did exist at the fifth- and sixth-grade levels.

Type of school. Several researchers have examined the effect of the type of school attended. One of these, Bass (1971), compared the academic achievement of students in four kinds of schools: federal on- and off-reservation schools and public on- and off-reservation schools. He found no reliable differences in achievement among the four types of schools. In the 45 categories for which significant achievement differences were registered, rankings were so variable that no evidence of particular superiority or inferiority could be found.

A 1974-75 JOM evaluation of programs (Oklahoma Indian Education Needs Assessment, 1976) compared the per-capita rate of nine-week failing grades among dormitory Indian students, public school Indian students, and non-Indian students. The study found that the number of failing grades per capita among dormitory Indian students was significantly higher than that of public school Indian and non-Indian students.

Achievement in schools after integration with Blacks has also been studied. Maynor (1970) found that, although Black students in North Carolina performed better after integration, Indian students' scores showed no negative effects. There was no significant difference in how each ethnic group of teachers affected students' total performance on the CAT, but the interaction between students and teachers of different races did affect the students' language scores. Blacks who were taught language by Indian teachers had the highest achievement in language, but Indian students taught by Black or white teachers earned higher scores than did Indian students taught by Indians (Maynor and Katzenmeyer, 1974).

Lammers (1970) compared Onondaga Indians attending segregated BIA schools with Indians and whites in public elementary and junior high schools. Desegregated Indians had the lowest GPAs, segregated Indians were next, and whites had the highest. Among segregated Indians, the greatest number of failures occurred in art and music.

Albert (1971) studied Indian children in New York, reporting on the differences in reading and arithmetic achievement between those attending segregated reservation schools and those attending integrated public schools. He found significant differences, both by school type and by sex. In third-grade reading and arithmetic and in sixth-grade reading, pupils attending the segregated reservation schools did significantly better than those in public schools. In sixth-grade arithmetic, however, there was no difference between the two groups. However, girls did significantly better than boys in reading, regardless of the school they attended. Albert also noted that Indian students in segregated reservation schools generally showed less variability than those in integrated public schools. In analyzing these data, Albert commented that Indian pupils in segregated reservation schools exhibited more regular patterns of attendance than Indian pupils in integrated public schools, and that the poor attendance in public schools probably contributed to the low achievement of students in those schools.

Socioeconomic status. Several studies have indicated a relationship between achievement and socioeconomic status. Fish (1969) studied about 250 students in Minneapolis, 62 of whom were Indian. She found that, with socioeconomic level held constant, minority-group children's achievement scores did not differ significantly from those of white children. Similarly, Havighurst (1970) commented that he thought that Indian students' achievement was low because of low-income and non-English-speaking parents. On the other hand, Currie (1972) showed that specific socioeconomic factors, as measured by a questionnaire, did not affect academic performance of Choctaw sixth-graders on the California Achievement Test.

Randquist (1970) supported Fish's findings with a 13-year study of students in the Anadarko, Oklahoma, area. The results indicated that poverty had a greater effect on the education of Indian children than did race. Two specific effects of poverty were frequent residence changes and irregular attendance patterns. The Indian languages spoken in the home, however, were not found to be a detrimental factor, as the languages were not being passed on to the younger generation. The study made several recommendations for broad improvements, including (1) improved quality of curricula and special services; (2) better communication between homes and school; (3) greater stability of the professional staff; and (4) meaningful in-service training for its educators.

Parental background. Parents' education, acculturation, and residence also appear to be significant factors. Kersey (1972) found that students whose families were less acculturated and sometimes transient generally obtained lower achievement scores than did those with more assimilated parents. He also noted that students from less acculturated families did better on math than on language tests.

Smith (1970) concluded that, although parents' attitudes toward education were not significant--all appeared to support it--parents' completion of high school did make a difference. Currie (1972) found the education of students' mothers to be relevant. Albert (1971), however, reported that, among the New York students he studied, the educational attainment of Indian parents was inversely related to Indian pupil achievement. Other conclusions he made about family factors were: (1) the influence of strong cultural factors remained much longer with Indian children enrolled in segregated reservation schools than with those in integrated public schools; (2) the frequency of bilingualism at home, often a distinct disadvantage for Indian children in terms of their formal education, has decreased substantially over the years; and (3) the employment level of Indian fathers had little effect on pupil performance.

Personal factors. Hendra (1970), comparing Indian students of Michigan with whites and Plains Indians, found no significant differences in motivation, achievement, or intelligence. Similarly, Merz (1970) found no association between CAT subtests and the Goodenough-Harris Draw-a-Person intelligence test. Williams (1971), testing Arizona State University students, found a negative correlation between two factors: the dogmatism (closed-mindedness) P score--that is, the tally of the number of items with which the respondent agrees--and grade-point averages. Bowlus (Bowlus et al., 1973) isolated three principal constructs that are related to academic performance: (1) conventional behavior; (2) functional information, knowledge, and skill; and (3) abstract reasoning and problem-solving ability. Finally, Dankworth (1970) identified six variables which, when acting together, were correlated significantly with achievement, no matter where the student lived. These were: mental ability, anxiety, verbal concept choice, self-concept, achievement motive, and interaction with the dominant culture.

Conclusions

Most researchers seem to agree that, on achievement tests and grade-point averages, Indian students do worse than whites. Several authors, however, point to the insufficiency of achievement tests as measures of knowledge due to (1) their cultural biases, (2) noncomparability of existing data, and (3) unreliability of teachers' evaluations. The correlation between student achievement and segregation/integration of schools has not been definitively established: some researchers say that there is no difference; some say that BIA boarding school students do worse; and some say that these students do better. Most researchers agree that socioeconomic level may affect performance more than race; they also generally agree that parents' education level has a significant effect on students' achievement. Several personal factors have also been identified as being relevant to achievement.

DROPOUTS

As noted in the previous section, achievement is one prime evaluator of the success of education. The other major factor is the dropout rate. There is general agreement in the literature that the dropout rate of Indians in secondary schools and colleges is higher than that of the general population.

The High School Scene

General statistics. The most recent regional data available, including data from the Northwest and the Southwest, are for students who were enrolled in eighth grade in 1962 and who would have graduated in 1967. According to these data, in the Northwest, 47.7 percent of the Indian students beginning eighth grade did not graduate from high school, with the dropout rate for girls about 10 percent higher than that for boys (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 42.00, reprinted 1976). In the Southwest during the same period, the overall dropout rate (defined the same way) was 38.7 percent, with the rates for girls and boys almost identical (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 42.02, reprinted 1976). Both studies included all types of schools, but the report on the Southwest presented a breakdown of dropout rates by school type. These figures show that public schools had the highest dropout rate, BIA schools were next, and private schools had the lowest rate.

Horton (1974) found that in one federal boarding school in New Mexico, the dropout rate for one semester was 26 percent, as compared with a national average of about 25 percent. These statistics, however, are not comparable to those reported above. This lack of comparability illustrates one of the key problems faced by researchers who attempt to analyze Indian education.

Reasons for dropping out. A few researchers have looked at the reasons given by students for dropping out of high school. Horton (1974), in the same New Mexico boarding school study cited above, found that the most common reasons for leaving were (1) being sent home for drinking or being absent without leave, (2) stealing in the dorms, and (3) missing too many days. The aspects of school most disliked by the dropouts were (1) other students and (2) dormitory staff. Counselors, teachers, and activities were generally liked by the students who dropped out.

Jacobson (1973), as part of Project ANNA, surveyed Alaskan students in boarding homes and dormitories who had dropped out of the public school they were attending. The most frequently stated reasons for leaving were (1) problems relating to the academic system, (2) problems with community and social adjustment, (3) problems within school and/or boarding home, and (4) homesickness.

The College Scene

Profile of the Indian college student. Several studies have been done to determine the types of Indian students that go to college and the subjects in which they tend to major. In 1973 (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 20-A, 1973), a profile of students receiving assistance from the BIA for higher education showed that most of them:

- Were in the 18-25 year age group (77 percent).
- Had poorly educated parents.
- Felt that their parents were the prime motivators for their attending college.
- Rarely had attended BIA high schools (16 percent).

Similarly, a profile of the Indian students attending private colleges in Minnesota in 1974 (Indian Students in Minnesota's Private Colleges, 1974) indicated that most were:

- Twenty-one years of age, although they ranged in age from 17 to 50.
- Female (52 percent).
- Seeking a Bachelor of Arts degree.
- Financed by tribal/BIA grants.
- Majoring most often in Indian Studies, followed by nursing and social work.

Recently, figures were published showing the representation of Indian students in higher education, as compared with other minorities and with whites (English and Settle, 1976). In 1960, Indians comprised 0.1 percent of all graduate enrollment; the percentage was still the same in 1970. Between 1960 and 1972, Native Americans were awarded 71 doctoral degrees. However, the number of bachelor's degrees awarded to Indians actually dropped from 1970 to 1974; in 1970 Indians received 0.5 percent of all bachelor's degrees (3,859), but in 1973-74 they received only 0.2 percent of all bachelor's degrees (2,476), although they represented 0.4 percent of the general population. With respect to areas of specialization, Indians tend to concentrate in the area of education, but they are not overrepresented in any one discipline.

Difficulties faced. Indians who are interested in higher education are confronted with a number of barriers. These have been listed as: (1) attitudes of admissions departments, (2) admissions criteria, (3) family commitments, and (4) financial resources (Indian Students in Minnesota's Private Colleges, 1974).

A BIA study (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 20-A, 1973) surveyed almost 3,000 college students who received financial aid from the BIA Higher Education Program. The study found that inadequate preparation for college resulted in both poor study habits and a lack of motivation.

Dropout rates. Indian students who go to college have a propensity for dropping out. On the basis of interviews and personal interpretation, McDonald (1973) identified major discrepancies between the values (both overall objectives and daily life-styles) of reservation Indians and those of non-Indian college students. This conflict in values appeared to be one cause of dropping out. Other causes cited included (1) the inadequacies of the high schools in preparing students for college, (2) finances, (3) racism, and (4) lack of role models.

Wolf (1970) found that students felt they had fewer funds for attending college than did non-Indians. They felt they had poor academic preparation, also. Neither problem could be identified as being uniquely Indian, however.

Factors causing Indian students to stay in college. Researchers are interested in determining what type of Indian student stays in school until graduation. Patton (1972), looking at characteristics of students who persisted, found that the Indian student most likely to succeed in college was:

- Female.
- Less than 19 years of age when first enrolled in college.
- A graduate of a larger, public high school.
- In the upper third of her graduating class.
- In the 17-or-above range on the ACT test.
- Planning to major in a professional field.

Evaluators have cited several programs that could help Indians stay in college. Unfortunately, the implementation of these programs has lagged (Clagett, 1973).

Kohout and Kleinfeld (1974) looked at changes made in college education for Alaska Natives that may have increased these students' chances for success. One change is that those considered to have the greatest educational disadvantage are starting to enter college in greater numbers, seemingly as a result of special assistance programs that have raised their valuation of higher education, helping them to see it as a means of gaining access to economic and social rewards. A second change is that academic demands on beginning Native students have been adjusted to match their level of academic preparation. Despite these changes, however, Alaska Natives continue to have low success rates. The researchers suggested three possible causes for this situation: (1) a lack of a sense of direction, (2) a lack of self-confidence, and (3) an inability to relate college success to personal goals. They concluded that, although progress has been made in increasing both college entrance rates and success rates for Alaska Natives, the success rate of these students is (1) still substantially below that of white students and (2) not yet high enough to meet their communities' social and economic need for educated Natives.

Conclusions

Although statistics permitting true comparisons are not available, it appears that Indians have a particularly high dropout rate. Their reasons for dropping out are primarily social, financial, and academic (due to a lack of preparation from previous years in school). The percentage of Indians receiving college degrees is lower than their representation in the general population, and the percentage of those receiving bachelor's degrees has actually dropped since 1970.

DELINQUENCY

General Trends

Delinquency is frequently cited, along with dropout rates, as an indicator of the failure of schools. Forslund (1972) ascertained the magnitude of delinquency on the Wind River Reservation. He found that about two-thirds of the delinquent acts were committed by males, but suggested that the best means of prevention lay in increasing employment and developing alcohol rehabilitation programs, rather than in school reform. In a later study in Wyoming (Forslund, 1974), he found that Indians committed more school-centered offenses than Anglos. In addition, Indian females frequently ran away from home. With respect to illegal drug use, a higher proportion of Indian than Anglo males had used drugs other than marijuana, and a higher proportion of Indian than Anglo females had smoked marijuana. However, since Indians were disproportionately concentrated in the lower socioeconomic classes, any differences found may have been due more to class than to race.

Student Rights and Responsibilities

When a student violates school rules, he or she has certain rights for due process. In ah effort to respond to recent court actions that "precede a new era of school-student relationships," the BIA developed a student rights and responsibilities program, designed to gain nationwide support and to "assure improved conditions for the total school community" (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 25-B, 1974). The program provided guidelines and legal support to schools in order to help them develop their own student handbooks. The most recent evaluation of the program (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 25-C, 1976) showed that 80 percent of the BIA schools surveyed had such a program and that student involvement was rated at 75 percent. The evaluation included the following recommendations; (1) work toward 100 percent implementation; (2) strengthen student involvement; (3) conduct additional training sessions; (4) develop curricula; and (5) analyze the "exorbitant" number of Indian student hearings held.

Streiff (1976) presented scripts for a filmstrip that would provide guidelines for procedural due process. A strict and sophisticated school court system was outlined, in which the school superintendent has the predominant influence, as well as the last vote; school staff make up the committee; and students act as witnesses. The scripts placed more emphasis on the students' responsibility for proper conduct than on his or her rights.

Conclusions

There are very few studies done on acts of delinquency committed by Indians in school. Indians appear to commit more school-centered offenses than do Anglos and to use drugs more frequently, although these trends may be a result of overrepresentation in the lower socioeconomic classes.

Procedures used by school administrators in handling student offenses have been questioned. As a result, the BIA has paid more attention to the ways in which such situations are dealt with. However, no studies were found on exactly how these offenses are handled.

SUMMARY AND CONCLUSIONS

Drawing conclusions from the research is difficult, as the studies contradict each other more often than not, and few are really comparable. It is somewhat surprising to find that, of the nearly two hundred studies conducted in this area, none has been replicated. Moreover, few of the reports give enough information on methodology and sampling to make replication easy.

The research does identify several factors that are indicative of students' performance in school and that deserve further research:

1. Indian cultural values survive with the student throughout his or her school career, and it is not necessary for the student to give them up in order to be successful--although assimilation does help.
2. Cultural conflicts can cause problems ranging from low grades and poor test results to dropping out and delinquency.

3. Indian students appear to value education, finding that it can lead to self-fulfillment and upward socioeconomic mobility.
4. While Indian students' career aspirations are often relatively high, students are limited both by lack of knowledge about careers and by low expectations concerning their ability to achieve them; these expectations, in turn, result from the low expectations of teachers and the absence of role models.
5. Indian students tend to have a low self-concept, but hold their tribe in high regard.
6. Indian students characterize themselves as friendly, helpful, easy-going, and more interested in happiness than in success.
7. Indian students respond well to warmth from their teachers and poorly to punitive threats.
8. Indians often show poor results on Weschler intelligence tests, but this finding may be a result of variables other than intelligence.
9. Indians' psycholinguistic abilities have been shown by tests to be below the norm, but their learning processes appear to be the same as those of other children.
10. Indian students do worse than Anglos on achievement tests, and generally receive lower grade-point averages; again, these trends may be due to factors other than intelligence.
11. Teachers' grades are not a reliable measure of achievement. Both achievement tests scores and grades given by teachers are affected by socioeconomic level, parents' education, and several psychological factors.

12. Dropout rates for Indians are abnormally high, the most frequent reasons for leaving being rule infractions, social adjustment problems, lack of financial resources, and poor preparation from earlier years in school.

13. Delinquency in the school and drug use occur more often among Indians than among Anglos, although good statistics often are not available.

COUNSELING

The primary job of counselors is to advise and help students to function successfully within the school system. The few studies that have been conducted on counseling Indian students consider this area to be of great importance, but little has been done to determine either (1) in what way counseling Indian students is different from counseling other students, or (2) which specific practices give the most aid.

COLLEGE COUNSELING

The great majority of the research deals with advising college students. Needs that have been identified in this area relate to:

- Admission practices.
- Orientation programs for new students.
- Financial aid.
- Training counselors to give them insights into the special problems of Indian students.
- Diagnostic instruments.

Difficulties Faced by Indian Students

The Indian student who decides to go to college faces many difficulties. Brown (1971), Winston (1976), and Bill (1972) suggested a number of factors contributing to this situation. First, there is the overall strangeness of the environment. Reservation students may see television for the first time. New social activities may be difficult to find and join; as a consequence, the new student may fall into familiar activities, such as drinking. Often, Indian students do not come to college with the same skills as do non-Indian freshmen--especially in the areas of math

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and sciences. Finally, the personal values that were prominent in the tribe may play less of a role in the new environment. The success of Indian students in dealing with all of these new situations will determine whether they feel comfortable at college, and whether they will stay on to graduate.

Difficulties Faced by Counselors

The college advisor is the person appointed to ease students into their college careers. As Winston (1976) has pointed out, academic advisors of minority students find themselves under particularly heavy pressure to develop close, demanding, and dependent relationships. Having few others to turn to--especially when financial and remedial programs are deficient--minority students will ask the advisor for financial and legal advice, as well as for help concerning classes, choice of major, career planning, etc. Yet despite these demands, advisors often are not acquainted with the particular problems faced by Indian students. Vontress (1972) listed several problems that are peculiar to Indians and that can interfere with the counseling process--for example, language difficulties, taciturnity, and suspiciousness. Unless advisors identify these characteristics as cultural variables and learn to deal with them, the counseling process will be impaired. Also, when advisors are of a different race from the students they are counseling, they may fall into the "broccoli syndrome" (Winston, 1976); that is, the practice of assuming that minority students don't know about such white "goodies" as broccoli, and of repeatedly informing them of these things in an ingratiating manner. Still other advisors assume that Indian students' problems are no different from those of any other student, despite evidence of specific problems often faced by Indians and despite the desire of Indian students to retain their ethnicity.

Recommendations

How can the college advising scene be improved? Foremost among the suggestions that have been offered is a summer orientation program for Indian students. Wright (1972) described one such workshop, offered for college credit, which both improved the self-confidence of students from traditional Indian cultural backgrounds and expanded the cultural awareness of the more acculturated students.

Training counselors to deal with Indian students is an equally prominent suggestion. Lapointe and Twiss (1972) described a training program centered at the University of South Dakota. After a six-week summer orientation program, the trainees went to five "satellite" institutions for their counseling training. McMahon (1973), recognizing that students come to school with a wide range of skill levels and values, suggested that counselors need both a high degree of cultural awareness, developed through a psychological and cultural anthropological perspective, and specific skills for helping educational institutions to meet student needs. Farlow (1971) developed a handbook to provide counselors with resource information on Wisconsin Indians, offering a number of insights into their particular needs. Brown (1971) proposed an ongoing "outreach" program of guidance and counseling, in which Indian students would assist as counselors. This suggestion points to an obvious solution to the counseling problem: use of Indian counselors, who know intimately the difficulties that Indian college students face.

Winston (1976) described the role that universities can play in providing counselors with incentives to improve their ability to help minority students. These incentives could include:

- Promotion for efforts to acquire skills.
- Sensitivity training sessions.

- Research facilities for exploring issues related to minority advising.
- Inclusion of minority consultants in training programs for advisors.
- Support of minority proposals for needed changes in the system.

In order to obtain more active Indian participation in higher education, a coordinated communication system could be established to inform students about available programs (Edington, 1971). As part of such an effort, colleges could designate one coordinator or counselor to serve the needs of Indian students. This person would be aware of all Indian students in the college and would be able to help them from the very beginning. This counselor could also coordinate college programs with those of the local high school, and could inform high school students about financial aid and special programs.

Financial problems often come up in the literature. A study of problems occurring in federal aid to District of Columbia students (Cogdell, 1971) may be indicative of weak areas in other financial aid programs. Based on his research results, Cogdell made a number of recommendations concerning such programs:

- Revise admissions criteria for students receiving financial aid so that these criteria include innovative indicators of academic potential.
- Find students already enrolled in school who are eligible for financial aid but don't know it.
- Give greater publicity to financial aid programs.
- Review financial aid policies periodically to assure that aid guidelines are interpreted humanistically.

According to Brown (1971), the main reason that Indian students do not enter college is not lack of motivation but rather lack of encouragement from family and teachers, improperly planned high school curriculum, and a misunderstanding of the importance of advanced education. Among his suggestions for encouraging more Indian students to obtain college degrees are: (1) beginning college recruitment in high school, utilizing Indian students already in college as recruiters; (2) offering financial aid; (3) developing remedial curricula in English, math, and science; and (4) providing Indian college students with opportunities for socializing with other Indians.

HIGH SCHOOL COUNSELING

Counselors in high schools are primarily concerned with problems of accurately conducting diagnostic evaluations of Indian students (Tarbet, 1972). Those surveyed by Tarbet felt that better instruments are needed for testing minority groups. They saw the educational problems of Indian students as stemming from two basic sources: school (including poor teaching, low expectations, and irrelevant material) and home (including poor use of language by parents, unfavorable perception of education, and different goals and values). The counselors came up with several solutions, including:

- Development of a wide range of learning skills.
- More flexibility in educational programs.
- Preschool work.
- Smaller classes.
- Better diagnostics.
- Special instruction.
- Emphasis on the positive aspects of the child's performance in parent-teacher communications.

SUMMARY AND CONCLUSIONS

No systematic research has been done on either the need for or the efficacy of counseling techniques. Because of the particular problems faced by Indian students in college, such as value conflicts, financial difficulties, and poor academic preparation, several authors have seen a need for more extensive and better counseling. Some of their recommendations include: innovative counselor training programs for Indian counselors; use of Indian students as counselors; use of incentives by universities to encourage academic advisors to develop the necessary sensitivities and skills; early recruitment of college students; remedial courses for students with poor preparation; and a wider, more thorough allocation of financial aid.

ECONOMICS

There are two aspects to economics in Indian education. The first is the economic status of the student and his parents and the implications of that status for direct financial aid. The second aspect is the funding of Indian education through the schools.

ECONOMIC STATUS OF FAMILIES

Indian families have, as a group, the lowest economic status in the nation. Sorkin (1971), using data derived from BIA sources and interviews with Indian leaders, reported:

> American Indians are the poorest of any nonwhite minority in the United States. Life on the reservation offers them few opportunities. If they move to the city, they face problems of adjustment that can prove insurmountable. The U.S. Government provides them with education, vocational training, health services, low-cost housing, and aid to industry and agriculture. Even so, most reservations remain "open-air slums" to which many Indians return after a losing battle with urban life.

His conclusion was that federal programs must be improved in specific ways and tribes must be encouraged to assume greater responsibility for developing their own resources.

In the Interior Southwest region, Gerlach (1972) found that unemployment was the number one problem reported by Indians; the BIA was their biggest employer. A study by Borrego (1971) done on Navajo migrant workers revealed an annual wage of $922, 25 percent of the labor force under the age of 16, and per-capita health expenditures of $12 in 1967, compared with a national average of $200. The average grade level achieved by the workers was 8.6, and 17 percent were functionally illiterate. Generally, they were excluded from work benefits such as unemployment insurance, social security, and workmen's compensation; and their housing was inadequate.

In the Upper Midwest, 8 percent of the nonreservation Indians in Michigan were interviewed in a study of the socioeconomic status of Michigan Indians (1971). The findings were:

- Four out of 10 households surveyed claimed that their total household income was below the $3,000 poverty line.
- Indian heads of households who were under 35 years old were more likely to have a high school diploma than those 35 and over.
- Well over half of the rural Indians resided in homes which were either deteriorating or dilapidated.
- The infant mortality rate among Indian children was significantly higher than the Michigan average.
- More than 40 percent of rural and 50 percent of urban respondents expressed the conviction that conditions would improve over the next few years.

Heath (1974) noted ways to improve the economic situation on the reservation. Primarily, the Indian economic development should be directed toward particular community needs, utilizing Indian leadership to determine what is needed in training and development programs. The majority of reservations, he asserted, do have adequate resources for self-support; the problem lies in combining a community's natural and human resources with its cultural strengths in a cohesive effort. Educational reorientation is vital to this process. Recent examples of innovative Indian economic development programs which have met individual tribal needs include the Fort Yuma Reservation's hydroponic farming system, the Lummi Indian aquaculture project, and the Pyramid Lake Paiute project.

Since most Indian families do not have the financial resources to send their children to college, the cycle of poverty remains unbroken without financial aid. McKinley and Kingsbury (1972) reported on several of the objectives of an Arizona State University institute regarding the financing of college education for Indians. These objectives were: (1) to improve the participants' ability to work effectively with Indian students and to find possible sources of financial aid in relation to their vocational/occupational aspirations; (2) to develop strong organizations to provide services for Indian students; (3) to establish a common philosophy and standard practices in cooperation with reservations and BIA offices; and (4) to coordinate financial resources in the institution and community aimed at Indian students with educational or socioeconomic barriers to higher education. The authors recommended that the institute revise financial aid criteria, make counseling more effective, and provide additional training to financial aid counselors.

Forty-eight tribes give scholarships to Indian college students, but they can only do so as long as adequate funds are available from Congress through the BIA (Rainier, 1973). In 1972-73, the cost of scholarships for 18,000 American Indian students was over $29 million.

A study on sources of financial aid (Leitka, 1974) found that 22,000 Indian students had requested assistance from the BIA in 1973, but funds were available for only 11,395 students. Funds were available from other sources, but only 25 percent of those eligible (3,000 students) were able to benefit from them. In order to eliminate discrimination against Indian students seeking financial aid from other federal sources, a cooperative agreement was made between the U.S. Office of Education (USOE), the BIA, and the U.S. Office of Civil Rights. The agreement places those educational institutions that receive funds under contractual compliance procedures. It states that (1) funds provided under the Basic Educational Opportunity Grant or other federal programs are to be made available to all eligible Indian applicants on an equal basis without regard to their eligibility for assistance through programs operated by the

BIA and (2) the level of Indian need is not to be projected as lower than that of non-Indians.

Scholarships for legal education are available to Indians attending the University of New Mexico. In an independent evaluation of the scholarship program, Underwood and Pierce (1972) made the following recommendations for improving it:

- Students' records should include their quantum of Indian blood, the manner of their recruitment, and their current progress.
- Applicants who are rejected should be told the specific reason for their rejection.
- Applicants should be told as early as possible that summer orientation is optional for well-qualified applicants.
- Detailed fiscal records should be maintained for each student.
- Each graduate's file should give the date of his or her admission to the bar.

FINANCING THE SCHOOLS

The United States government has an obligation to provide education to Native Americans. This is accomplished through a number of programs and through direct subsidies of schools, as well as through the federal Bureau of Indian Affairs school system. Jones (1974) stated that this responsibility derives from treaty rights and trust responsibilities of the federal government. In a lengthy opinion published in the Stanford Law Review, Rosenfelt (1974) stated that, although the federal government had no legal obligation to provide educational services for Indian children, it did have a strong moral duty, stemming both from the history of its dealings with the Indians and from the general guardian or trust relationship expounded by the courts.

Unlike the federal government, however, the states have an enforceable obligation to provide Indians with public education. Under the equal protection clause of the 14th Amendment, any state action that differentiates between two classes of people on the basis of race is subject to court scrutiny and will be upheld only if necessary to promote a compelling state interest. The availability of state or federal schools to a group is not compelling justification for its exclusion. Rosenfelt identified a need for Congress and/or the courts (1) to clarify the precise nature of the wardship relation in the context of the federal obligation to provide education to all Indians, regardless of where they reside, and (2) to enforce the states' responsibility to provide schools for Indians.

In 1973, the number of Indian children between the ages of 5 and 18 enrolled in all schools was 187,613. Of those, 68.5 percent attended public schools, 25.6 percent attended federal schools, and 5.9 percent attended mission schools. The BIA operated 195 schools and 19 dormitories (Hildebrand, 1973). The U.S. Office of Education reported that 334,495 Indian children attended school in 1975. Of those, 85.7 percent attended public schools, 11.5 percent attended BIA schools, and 2.7 percent went to mission schools. Most of the increase between 1973 and 1975 occurred in public school enrollment.

The federal obligations for education are carried out through many programs; these include: Elementary and Secondary Education Act (ESEA) Titles I, II, III, IV, VII, and VIII; the Career Opportunities Program; the Teacher Corps; Follow Through; Upward Bound, Pupil Personnel Services; Urban/Rural Schools; Teacher Training in Bilingual Education; Vocational Education--Exemplary; Emergency School Assistance Program; Talent Search; Community Action Agency; NDEA Title III; JOM; and Impact Aid (Smith and Walker, 1973). In 1972, a proposal was made to Congress to create a national board of regents for Indian education that would carry out a national Indian education school board program (Comprehensive Indian Education Act, 1972). In 1974, the

Office of Education requested $42 million for the Indian Education Act; most of this amount was destined for special demonstration projects for Indian children with about 25 percent allocated for special programs for Indian adults. Reports on other programs for Indian students are made to the federal government annually for ESEA and JOM accounting.

Pacific Southwest

Nevada reported three successful JOM-funded programs in 1971 (Poehlman, 1971): the Moapa Summer Educational-Recreational Program (essentially field trips), the Summer Reading Program for Primary Students, and the Indian Preschool Summer Education Program. In 1973, JOM funds in Nevada were used exclusively to support school lunch and special programs (Nevada, 1973). In 1972, JOM funds were used for the payment of tuition to school districts which enrolled eligible Indian children (Poehlman, 1972).

A study of higher education in California (Chavers, 1972) found that 2,400 Indians were expected to enroll in 55 or more colleges and universities in 1972-73. To serve the special needs of the Indian population, $1,047,500 was allocated for 19 of these institutions. The money paid for faculty salaries, curriculum development, counseling, recruiting, and financial aid officers. Despite the impressive growth in numbers of Indian students, faculty, support services, curriculum, and budget, the total commitment of higher education institutions to the Indian students was not nearly adequate to meet their needs.

Pacific Northwest

Washington evaluated its Center for the Study of Migrant and Indian Education (Streiff, 1972), which is funded through JOM. While its activities were defensible under JOM criteria, further clarification of the center's role was needed. Among the problems it had encountered were (1) a difficult combination of populations to be served, resulting in troubles with both the migrant and the Indian groups; (2) ambiguity as to the center's function and the problems it was trying to solve; and (3) confusion as to the role of Central Washington State College.

Alaska reported that, in 1973, the state public schools enrolled the largest number of Alaska Native students, a total of 5,855 (5,140 in elementary school and 715 in high school); private schools enrolled 422 students.

Central Plateau

Idaho receives JOM funds for 14 districts. In 1971, these funds were used to (1) assist public schools with categorical grants-in-aid, (2) encourage new programs and approaches to learning and teaching, (3) bring about understanding and communication between school and community, (4) provide in-service training for teachers and teacher aides, and (5) make possible the participation of Native Americans in school activities and programs by providing funds to schools and by absorbing costs normally paid by parents (Snow, 1971). In 1972, these funds also helped to provide kindergartens, summer programs, workshops for teachers, and many other special programs (Idaho, 1972). In 1973, there was a drastic decrease in the use of JOM funding for basic school support. This decrease resulted both from PL 874 and from the greater use of local funds for Indian education (Idaho, 1973). The major objectives under JOM were not revised in 1974, but further recommendations were made. These were: (1) creation of a state advisory council for Indian education, (2) early completion of contract negotiations, (3) employment of a professional educator to assist with the administration of the program in the northern part of the state, and (4) improved procedures for reporting expenditures from JOM funds.

Interior Southwest

Arizona distributes its JOM funds to public schools and counties having 3 percent or more Indian children, in order to help pay the cost of educating those Indian children living on tax-exempt reservation lands. The host school district receives the full per-capita cost of education for out-of-district Indian children living in federal dormitories. In 1972 the money went for administrative and supervisory services, special programs, and in-service training for Indian teachers. Arizona's annual JOM report contains information on: (1) receipts and expenditures of contract funds; (2) peripheral contract payments; (3) expenditures for state administration; and (4) allotment and expenditures by districts, enrollment, and average daily attendance. It also lists graduates by school, and gives tax rates and assessed valuation by districts (Turner, 1972). In 1974, the Division of Indian Education indicated a desire for changes in JOM, clarification of Title IV funding, and a drive for increased Indian community involvement in the education of its children (Leonard and Havatone, 1974).

New Mexico's JOM-funded schools reported progress in 1971 (New Mexico, 1971)--absenteeism and dropout rates had decreased slightly. Schools had increased the number of kindergartens and had hired community-school liaison persons to aid in communications. Individualized instruction was promoted through the hiring of teaching specialists and instructional aides; counselors and registered nurses worked full-time with students. In 1973, JOM funds were reported to have been used for meals, administrative support, and instructional services for students. Two important developments occurred that year. First, there was a court case involving abuse of JOM funds administration, in which the Gallup-McKinley School District was the defendant. Second, the state superintendent took a position encouraging and cooperating with the efforts of Indian tribal groups to administer their own JOM programs (New Mexico, 1973).

Central Southwest

Oklahoma used JOM funds in 1972 for free or reduced-cost lunches for needy students, teacher and teacher aide programs, and summer programs for Indian students in need of remedial or make-up work (James, 1972). During the 1972-73 school year, 130 schools participated in JOM special programs. The enrollment of Indian students was 12,972, with attendance rates of about 88 percent. The next year there was an increase: 147 schools participated, and enrollment was up to 14,630 but with only 84 percent attendance. The number of Indian high school graduates that year was 625 (James, 1973; James, 1974).

Coombs (1972) was extremely critical of the Oklahoma JOM program after the Muskogee BIA Area Office investigated the Oklahoma State Department of Education. The rationale for JOM was not understood well by most of the school administrators and by the Indian patrons of public schools. There was an almost total lack of standardized test data. Other of Coombs's criticisms were that (1) funds did not go to Indians directly but were apportioned to three BIA hosts, (2) the reports did not mention what funds schools received other than from JOM, and (3) parental costs (such as athletic fees) were not covered by JOM. The schools strongly recommended in-service training of personnel dealing with funds and changes in the JOM program.

Upper Midwest

Minnesota's Indian education program had what it described as a "turning point" year in 1972. During that year, there was a 31 percent increase in Indian high school graduates, and over 3,800 adults enrolled in Indian adult basic education classes. The program received funding from over 15 outside agencies, including the U.S. Office of Education. The JOM program took significant steps in providing more local decision-making authority by establishing local Indian education committees. The first Chippewa language camp was operated by the Indian education section. Also, full-time civil service positions held by Indians increased by over 100 percent (Minnesota, 1972). Progress was made toward tribal control of the JOM program in 1973. JOM programs covered three principal areas: (1) basic needs, such as transportation; (2) parental costs; and (3) special services, such as guidance counseling. Supportive programs established by the government encompassed four areas: (1) regional Indian document and resource collection centers; (2) PL 81-874, dealing with federally impacted areas; (3) PL 89-10, the Elementary and Secondary Education Act of 1966; and (4) Chapter 966, Minnesota Aid to Indian Education Act.

New England

New York State funded services to its resident Indians, administering programs through an interdepartmental committee on Indian affairs. The Department of Education contracted with 12 public school districts for educating Indians near reservations, and assistance was provided for college students. The Department of Health offered public health services, including ambulatory medical care in clinics. The Department of Transportation maintains reservation routes as part of the regular state highway system (New York, 1970).

PROBLEMS IN ALLOCATION OF FEDERAL FUNDS

The funding of Indian education by the federal and local governments came under attack in the 1970s. Muskrat (Muskrat et al., 1972) reported that several factors indicated that current funding was not providing Indians with necessary skills. These factors were:

- Lack of educational attainment (in 1969, the median Indian education was 6.1 years as compared with the white median of 12.3 years).
- Dropout rates of 40 to 60 percent, with no dropout prevention program attempted by federal schools as of 1969.
- A worse regional accreditation rate for Indian schools than for public schools.

- Inadequate special education (in 1968 only seven special educators were employed for 250 schools and 57,000 students).
- High teacher turnover rates (due, for example, to isolation or economics).
- The small number of students continuing their education (despite a 100 percent increase in college graduates between 1962 and 1967, dropout rates for reservation Indians in college were 50 to 70 percent).

One of the most important references cited in this area is the NAACP's report, An Even Chance (NAACP Legal Defense and Educational Fund, 1971). Interviews with administrators and Indian parents, combined with data from the General Accounting Office audits, provided ammunition for the report's contention that Indian children have not received full use of funds appropriated by the U.S. government. The major conclusion of the report was that, although federal legislation provided ample funds for Indian students, the money did not reach the students because of various administrative problems. One of the primary administrative problems was local administrators' lack of knowledge about the purpose of federal funds. Two beliefs frequently expressed by these individuals were: (1) since Indians don't pay taxes, they don't contribute their fair share, and therefore their children don't deserve an equal education; and (2) it is wrong to spend special federal funds on poor children only. Two factors contributing to the confusion are the conflicting federal guidelines on use of funds and the lack of any requirement for accountability. Contrary to the administrators' views, however, although the schools with a large proportion of Indian students received substantial amounts of federal and state money (through a combination of Impact Aid, JOM. ESEA Title IV, sales taxes, etc.), they were more poorly equipped than are schools with predominantly white children. No special courses of a remedial or cultural nature were offered in the predominantly Indian schools, despite the availability of funds for such courses. The school lunch program was implemented against specific directives: for example, students were required to declare poverty, and their parents were then billed for the lunches.

Several specific problems were encountered; for example:

- JOM and Impact Aid funds were not being used for their intended purposes.
- Policies of administrative personnel concerning the use of JOM funds appeared to conflict with the wording of the legislation--for example, in the exclusion of nonreservation Indians from JOM funding.
- JOM and Impact Aid funds overlapped in the area of general support of schools.
- JOM and Impact Aid funds were used to cover special programs which were not specified in the law.
- Although federal funds were intended to fill the gap between what the local school districts could provide and what the Indian children needed, local districts illegally disregarded this intent and counted federal funds into their regular budgets to permit lower tax levies.

The recommendations made by the NAACP are numerous and specific, but the basis of all of them is parent involvement. Informed and interested Indian parents can pressure their children's schools to comply with federal regulations; they can also establish Indian schools run by Indians and hold special classes by, for, and about Indians.

Other researchers who studied federal disbursement of funds for Indian education included Smith and Walker (1973), who analyzed disbursements primarily on the state level. They called the funding a "bureaucratic enigma." National policy on Indian education is ambiguous at best, and much of the information on fund allocation is incomplete and misleading. No single official in the USOE or the BIA has a good grasp of how and why Indian funds are dispersed. Since little of the current official doctrine on federal funding was supported by the findings, the authors questioned the validity of some of the data produced by the federal agencies. For instance, they doubted that (1) USOE spends $80 million per year on Indian education, as it claims; (2) BIA school enrollment is rapidly increasing; (3) BIA schools are drastically underfunded; (4) ESEA Title I concentration policies benefit disadvantaged groups such as Indians; and (5) BIA students are less well supported than those in public schools.

Although no conclusion was reached as to whether BIA school students receive education commensurate with their funding, the researchers had reason to believe that a disproportionately large amount of BIA money failed to reach the schools. Education in BIA day schools cost twice as much ($2,182 per pupil) as did education in public day schools (the national average was $743 per pupil). Also, 33 percent more money was spent on supplemental funds for BIA schools than on the education of Indian students in public schools (see Tables 1 and 2).

One reason that appropriations were so high for BIA schools is the method of counting enrollment in these schools. First, appropriations are based on a two-year enrollment projection that is quite high (the projection for 1975 was 15 percent higher than the actual 1975 count). Second, BIA enrollment figures reflect the total number of pupils who attended school at any time during the year; thus, a pupil who attended three schools in one year would have been counted three times. A count on one day, December 31 of every year, is available if requested. It tends to show a large discrepancy--7 to 20 percent--from the appropriation-related figure.

Large discrepancies between what each state received for Indian education were also discovered (Table 3). While one state received $450 per Indian pupil, 15 others averaged less than $20 per Indian student. The discrepancies in the amounts of grant money received by different states appeared

TABLE 1

FEDERAL FUNDING FOR BIA SCHOOLS AND FOR THE EDUCATION OF INDIANS ENROLLED IN PUBLIC SCHOOLS: FY 1971

Type of Support and Categorical Program	Public Schools	BIA Schools
Basic Support		
Federal Schools Program	$ -	$80,855,245[a]
Supplemental Support		
ESEA I	17,697,613[b]	11,086,850
Career Opportunities Program	1,543,685	-
Teacher Corps	1,287,857	227,707
ESEA VII	1,152,197	685,000
Follow Through	826,633	2,052,216
Upward Bound	767,985[c]	c
ESEA VIII	765,300	-
Pupil Personnel Services	515,851	-
ESEA III	488,124	326,261
Urban/Rural Schools	385,000	-
Teacher Training in Bilingual Education	138,851	-
Vocational Education--Exemplary	105,783	-
Emergency School Assistance Program	98,519	-
Talent Search	60,000[c]	c
Community Action Agency	40,355	617,957
NDEA III	d	50,000
ESEA II	d	117,283
Johnson-O'Malley (schools)	17,858,000	-
Total	$43,681,753	$15,158,224

		Public Schools	BIA Schools
Enrollment		205,912	49,265
Per pupil support:	Total	$209	$1,949
	Basic	-	1,641
	Supplemental	209	308

SOURCE: Smith and Walker, 1973.

[a] Estimated support for day school for all BIA pupils. The total support allocation was $107,538,423.

[b] Estimated from Indian participation rate and investment per participant in each state.

[c] An additional $1,150,200 in Upward Bound monies and $662,000 in Talent Search grants for Indians could not be identified separately for BIA and public schools beneficiaries. Occupational training grants ($7.1 million) are also not shown.

[d] Not available.

TABLE 2

FEDERAL FUNDS FOR BIA SCHOOLS AND FOR THE EDUCATION OF INDIANS ENROLLED IN PUBLIC SCHOOLS: FISCAL YEARS 1968-1970[a]

Support	Public School Indians			BIA Schools		
	1970	1969	1968	1970	1969	1968
Basic Support						
Federal Schools Program	$ -	$ -	$ -	$66,283,434[b]	$56,386,018[b]	$56,261,741[b]
Supplemental Support						
ESEA I	-	-	-	7,245,701	6,950,700	6,108,081
Career Opportunities Program	1,360,558	-	-	-	-	-
Teacher Corps	787,054	814,207	918,542	354,531	181,155	270,000
ESEA VII	678,874	217,985	-	-	-	-
Follow Through	582,839	57,632	42,200	1,950,698	279,173	295,600
Upward Bound	891,100	881,607	694,400	-	-	-
ESEA VIII	218,600	237,590	-	-	-	-
Pupil Personnel Services	115,558	-	-	-	-	-
ESEA III	316,282	247,724	793,382	-	-	-
Urban/Rural Schools	-	-	-	-	-	-
Teacher Training in Bilingual Education	72,519	-	-	-	-	-
Vocational Education--Exemplary	-	-	-	-	-	-
Emergency School Assistance Program	-	-	-	-	-	-
Talent Search	102,600	103,886	75,000	-	-	-
Community Action Agency	32,076	35,301	17,801	326,439	292,894	461,703
NDEA III	-	-	-	-	-	-
ESEA II	-	-	-	-	-	-
ESEA V	106,000	16,005	11,000	-	-	-
Civil Rights IV	-	50,000	120,824	-	-	-
Johnson-O'Malley (schools)	14,676,217	9,978,283	8,349,572	-	-	-
Total	$19,940,277	$12,640,220	$11,022,721	$76,160,803	$64,089,940	$63,397,125
Enrollment				48,831	50,055	51,448
Per pupil support: Total	-	-	-	$1,560	$1,280	$1,232
Basic	-	-	-	1,358	1,126	1,093
Supplemental	-	-	-	202	154	139

SOURCE: Smith and Walker, 1973.

[a] This table excludes funds for occupational training and Upward Bound and some Talent Search monies.

[b] Estimated support for day school for all BIA pupils. The total basic support allocation for all purposes was $89,955,600 (1970); $77,931,000 (1969); $71,968,600 (1968).

TABLE 3

PER CAPITA FEDERAL FUNDS FOR BIA SCHOOLS, BY STATE: FY 1971

State	BIA Enrollment		Per Capita Funds				
			Basic Support[a] (Federal Schools Program)	Supplemental Support		Total	Rank
	N	%		ESEA Title I	Other Programs[b]		
Arizona	16,216	32.9	$1,270	$214	$ 68	$1,552	14
New Mexico	9,414	19.1	2,097	212	45	2,354	7
Alaska	5,653	11.5	2,036	275	30	2,341	8
South Dakota	4,958	10.1	1,313	199	197	1,709	10
North Dakota	3,187	6.5	1,265	248	99	1,612	12
Utah	2,108	4.3	1,405	252	-	1,657	11
Oklahoma	2,043	4.1	2,701	334	10	3,045	2
Mississippi	1,255	2.5	1,144	146	297	1,587	13
North Carolina	1,232	2.5	994	162	354	1,510	15
Kansas	1,106	2.2	1,765	-	-	1,765	9
Oregon	723	1.5	2,491	227	61	2,779	5
California	510	1.0	2,538	399	-	2,937	3
Nevada	496	1.0	2,254	315	-	2,569	6
Montana	236	0.5	3,951	486	890	5,327	1
Florida	85	0.2	2,256	669	7	2,932	4
Louisiana	43	0.1	907	-	14	921	16
Total	49,265	99.9					

SOURCE: Smith and Walker, 1973.

[a] Estimated cost for day school.

[b] Includes ESEA Title II, III, and VII, Teacher Corps, Follow Through, NDEA III, and Community Action Agency.

to be due to differences in grant-writing skills, differences in the organization of the Indian community, and a lack of central USOE coordination. In addition, once a program was funded, the grant tended to be renewed.

Bilingual Education, Follow Through, CAA, and Teacher Corps grants are given under the discretionary authority of the USOE. Of the other program funds, only JOM funds must be spent exclusively on Indians (except in Oklahoma); Upward Bound and Bilingual Education simply give Indians preference.

Per-pupil expenditures vary more within than among states. Rural schools generally receive the least money, even though small, isolated schools tend to be the most expensive to operate. In states where the decision was made by administrators to spend more money on fewer pupils, Indians consistently were not selected for the programs that were funded. Not all states keep track of the number of Indians who participate in ESEA Title I programs, but, in general, few Indians actually do participate.

A study conducted by a private, Indian-owned professional service firm for the USOE and the BIA (So That All Indian Children Will Have Equal Educational Opportunity, 1974) reached essentially the same conclusions as had both the NAACP and Smith and Walker. Among their findings were:

- The share of Title I funds received by Indian children was not adequate to meet their needs.
- The JOM act had not been used as extensively as it could have been due to the BIA's interpretation of the act.
- Great discrepancies existed between the amounts of money appropriated for BIA education and the money actually spent per pupil in BIA schools.
- The existing methods of school financing have neither ensured that Indian children receive per-pupil expenditures on a par with others, nor seen to it that these children are provided with an adequate basic education program.

Loon (1974) also found problems in the use of federal funds. The factors contributing to abuse were: (1) the use of compensatory funds for backward budget building, (2) the use of compensatory funds to buy equipment for general use, (3) open enrollment of target programs, (4) the use of target funds for administrative overhead, (5) the legal diversion of target funds by manipulation of allocation formulas, (6) a lack of regulations enforcement by state departments of education, (7) manipulation and intimidation of parent advisory committees, and (8) federal laxity in regulatory enforcement.

The following steps were recommended to check the abuse of federal funds:

- Use Indian personnel in program administration.
- Assemble a staff under the Deputy Commissioner for Indian Education that will insist that state educational agencies enforce regulations.
- Make comparability and participation reports a prerequisite for receiving federal funds.
- Expand the role of the Indian National Advisory Council to include evaluations of BIA programs.
- Consolidate parent advisory committees into a powerful body to serve as a regular community counterweight.

The effective use of federal funds was further studied by Alexander (1974). He recommended that specific programs be combined into general aid, under a plan comparable to either (1) a national foundation program providing a minimum educational level for all children equalized according to the ability of the states to pay, or (2) flat, general-purpose grants with no required local or state effort, or (3) equal grants that would require each local and state government to provide a certain amount.

SUMMARY AND CONCLUSIONS

Indian families are among the poorest in the United States; yet the education that Indian children must receive to attain socioeconomic mobility is often expensive. The United States government is obligated under federal trust responsibility, and the states under constitutional law, to provide Indians with an education whether they can contribute to it monetarily or not. Several legislative acts have established programs for funding schools and for providing direct financial aid to students. A number of problems, however, have been discovered with the way in which these funds are dispersed. Most of these problems stem from administrative practices. The primary recommendations made by researchers are that Indian communities, and especially Indian parents of school children, should (1) know their rights, (2) organize, and (3) see to it that the law of the land is enforced so that Indian children can receive their fair share of educational opportunities.

EDUCATION NEEDS

The materials reviewed in this last segment reflect the general educational needs of Native Americans. Much of the material represents personal expressions of representatives from a number of groups: educators (both Indian and non-Indian), leaders from various aspects of Indian community life, and educational specialists. Because these expressions of needs stem from experience and participation in the Indian educational arena, they tend to be both personalized and opinionated.

Although individualized opinions can be highly accurate, reflecting a true state of affairs, their worth is frequently felt to be of less value than the information that results from the use of specialized survey research techniques. Thus, in the case of Indian educational needs, many have expressed their opinions by providing testimony or writing an article or book on the subject, only to find that decision makers want more empirical information before they take any action. An assessment of the needs typically follows; findings are then compared against the opinions that had been expressed. Hence, the large body of information on Indian educational needs consists of two basic types of information: expressions of opinion and scientific assessment.

Many of the articles focused on needs of Indians residing in particular geocultural regions. For this reason, articles, regardless of the types of needs they deal with, are grouped according to the specific region for which the material is intended. Each section, then, summarizes all of the needs of a particular geocultural region--needs in administration, instruction, training, curriculum, special programs, students, counseling, and economics.

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NEEDS THAT APPLY TO ALL REGIONS

This subsection concentrates on material pertinent to Indian educational needs in all geocultural regions. Organization of the information is based on three perspectives: (1) general needs; (2) specialized problems; and (3) results of government assessments.

General Needs

In 1970 Spang listed eight problems in Indian education: (1) lack of money, (2) irrelevant curricula, (3) lack of qualified and trained Indians, (4) insensitive school personnel, (5) differing expectations of education programs, (6) lack of Indian involvement in control of education, (7) difficulties of students in higher education, (8) too many experts who are not knowledgeable about the roots of problems (cf. Annual Indian Education Conference, 1972). Although he provides no data to substantiate his contentions, it is nevertheless interesting that his topics cover the same broad spectrum of needs reflected in the outline of this document. It should be kept in mind, however, that listing the general educational needs of Indians is not as simple as it appears (Kersey, 1972). Programs need to be tailored to fit the interests of specific tribes and should include input from both parents and educators (Steele, 1974).

Parental involvement in the operation, administration, and organization of Indian schools is a recurrent theme in the literature. Participation of parents in the decision-making process is seen as helping to assure that the educational experience will reflect traditional Indian cultural values (Larsh, 1973). When informed and concerned community members have the opportunity to scrutinize textbooks, curricula, instructional techniques, and student services, they can make sure that the quality of experience deemed important in their particular community is included (Stent, 1971). Moreover, parental involvement may, as Shunatona (1974) suggested, assist in molding educational experiences for students; hence, it may help students to achieve a greater understanding of both the dominant society and Indian community life (cf. Meyer, 1972).

To improve the quality of Indian education, both Indian and non-Indian educators have recommended establishing goals. Locke (1973) developed a series of models designed to reinforce tribal value systems; these models can be implemented at all educational levels. Other recommendations made by Locke include: (1) use of a multicultural curriculum from fourth grade on; (2) establishment of a "school on wheels," operated at the tribal level; and (3) development of at least one national Indian university.

Keen (1972) focused on strengthening the present programs as offered in BIA schools. As a start, Keen suggested that the operation of the boarding schools be turned over to the local Indian community (cf. Levitan and Hetrick, 1971). Other recommendations included: (1) reducing the number of classes offered, (2) developing programs for preschool children, (3) providing more trained guidance counselors, (4) increasing involvement of Indians at all levels of decision making, and (5) establishing a national advisory council on Indian education.

The fair allotment of federal monies is another subject addressed in the research. Ridley (1973), in a well-written article, discussed policies for allotting monies appropriated by the Indian Education Act. He presented a number of arguments defending both the federal status of Indians and their alleged right to pursue control of their own educational programs. He also discussed the conflicts between the Civil Rights Act of 1964, which calls for integration, and the Indian Education Act, which fosters the policies of self-determination and Indian-controlled schools.

Deloria (1974) edited a five-volume series devoted to the goals of Indian education in the 1970s. This lengthy series documents the need for improvements in virtually every major field of Indian education. Some of the more meaningful topics include: (1) "Indianization" of Indian education, (2) state responsibilities, (3) bilingual and bicultural education, (4) programs for Indians in prison, (5) educational needs of urban Indians, and (6) public school financing. The sixth volume is particularly noteworthy in that it concludes with a detailed discussion of the long- and short-range goals of Indian education. This series is comprehensive and well documented, and provides insight into some of the very complex federal/Indian relationships that appear to hamper tribal progress.

Specialized Problems

A number of articles discussed educational concerns of Indians in different settings (e.g., urban and rural) and at various educational levels. English (1970) and Morris (1974) argued for providing improved educational standards for urban Indians. Many urban Indians are not officially part of a tribe and therefore are not eligible to receive financial aid for educational purposes. In addition, urban Indians generally feel more pressures to assimilate and to adopt unfamiliar lifestyles than do their rural counterparts. Urban public schools need to recognize the diverse cultural traditions of their Indian students and to initiate full-scale efforts to accommodate their needs, adopting programs similar to those recommended for reservation schools. Edington and Conley (1973) voiced similar concerns with respect to Indian education in rural, nonreservation communities.

Catholic schools have played a major role in the education of Native Americans. Kinlicheeny (1972) discussed the importance of Catholic schools in meeting the educational needs of those families who follow the Catholic faith. Efforts are increasing to combine the principles of a Catholic education with traditional cultural values; however, denominational schools need to recognize the value of increasing local parental involvement.

A number of articles addressed educational needs during childhood and in higher education. In 1974 a conference on childhood development of Native Americans was held in Albuquerque, New Mexico. The conference provided a forum for identifying common needs and for exploring alternative ways of meeting these needs. Some of the recommendations made during the conference included: (1) expanded funding of existing legislation to meet the needs of Indian preschoolers (e.g., to fund programs in early childhood education, foster care, handicapped children, parenting techniques, and cultural instruction); (2) closer coordination of reservation and urban programs in Indian education; (3) expansion of Head Start and day care programs; and (4) establishment of a national clearinghouse for resource material.

Results of Government Assessments

One of the major government assessments of Indian education was made in 1974, when Congress directed the BIA to conduct an analysis of early childhood educational needs. To supply Congress with this information, the BIA contracted with the Bank Street College of Education in New York to carry out the following tasks: (1) assess the educational needs of Indian children, from the prenatal stage to eight years of age, including family members as part of the sample; (2) identify and describe existing programs available for children and their families; and (3) recommend programs designed to meet the developmental and educational needs identified in (1) and (2) above.

To achieve these objectives, field teams, consisting of Native Americans and representatives from Bank Street, interviewed 562 Indians and 327 "other" persons (presumably non-Indians involved in child development programs). The interviews took place in 26 predesignated sample sites in South Dakota, Alaska, New Mexico, Arizona, North Carolina, Mississippi, and Florida. Most, if not all, of the sites were reservation communities that had an existing child development program.

An open-ended interview form was prepared for use in interviewing tribal officials, parents, school principals, directors of early childhood programs, teachers, and educational aides. In addition, summary forms and a classroom observation guide were used.

Data were summarized according to nine broad categories of needs, derived from a list of 1,294 expressed needs. The nine categories were: (1) staff; (2) curriculum; (3) programs; (4) facilities; (5) parent education; (6) coordination, cooperation, and communication; (7) administration; (8) parent/adult education; and (9) special education. Of these nine groups, the three most frequently cited as general areas of needs were staffing, curriculum, and programs.

The results of the needs assessment were grouped into four categories of recommendations: (1) children and their families from birth through age five; (2) primary school children from kindergarten through third grade; (3) supportive services for all children, from birth to eight years of age; and (4) training programs. Cost estimates were prepared, showing the funds that would be necessary to implement the recommendations for the next 10 years.

Because sample sites were preselected by the BIA, the conclusions of the study are restricted to reservation and Alaska Native communities--rural nonreservation and urban Indians were not included. However, the survey approach, research procedures, and methodology used in the assessment seem reasonable, well thought out, and consistent with current social science technology; moreover, the study is the only existing document that systematically assesses the educational needs of Native Americans on a national level. Further national needs assessments will at least have one major reference as a model for reflection and comparison.

Several other government evaluations and reports were released during the 1970s. The topics included: (1) the need for continuing to operate and fund off-reservation boarding schools (Off-Reservation Boarding School Project, 1972); (2) a proposal that federal funds be authorized on an annual basis to assist Indians in meeting educational goals

(National Indian Goals and Progress Act, 1973); and (3) progress in meeting 22 areas of Indian educational concerns (The Indian Education Act of 1972, Report of Progress for the First Year of the Program, 1974). Among the areas of concern identified were:

- Personal and social needs of Indian pupils.
- Students' academic achievement.
- Curriculum improvement.
- Staff improvement.
- Improvement of special services.
- School construction.
- Counseling and social development.
- Formulation of curriculum objectives.
- Development of models for planned instruction.
- Program and budget priorities for pupil and school needs.
- Establishment of evaluation criteria.

In 1972 and 1973, the BIA sponsored an evaluation of Indian programs in higher education. A questionnaire was sent to a sample of recipients of BIA scholarships; additional information was obtained from an evaluation that had previously been made of the effectiveness of area offices in carrying out their educational responsibilites. The analysis of results showed definite differences between full bloods and mixed bloods on a number of response categories. For example, full bloods are more likely to (1) have less parental encouragement to attend college, (2) attend colleges or universities having 25 percent or more Indian enrollment, (3) attend a private rather than public institution, (4) speak a tribal language, (5) live on campus, and (6) have special Indian counseling services available to them. The report concluded that the present higher education program for Indians sponsored by the BIA is healthy and is being administered well.

In 1976, the BIA sponsored another study--this time, to identify the perceptions of Indian leaders, school administrators, BIA officials, area-office education directors, Indian college students, and school boards as to the major concerns in the area of Indian education. Data were obtained through the use of personal interviews, small-group discussions, and mail-out questionnaires. The questionnaires were mailed to a sample of 240, consisting of school board members, tribal officials, PTA members and BIA officials, teachers, and students.

The findings of this study are particularly relevant in identifying the needs of BIA schools:

- Educational decisions should be made by educators rather than noneducators.
- Inequities in staff distribution should be corrected.
- Facilities should be improved.
- Teacher training programs should be expanded.
- Curricula should be made more relevant.
- Emphasis should be placed on improving the quality of student needs.
- Administrator training programs should be developed.
- Special-education programs should be developed.
- An improved system of accountability in terms of human and financial resources should be instituted.
- BIA higher education grantees should be supervised more closely.
- School boards should be granted more policy-making authority.
- Boarding school issues should be assessed and analyzed.
- Indian hiring preferences should be implemented.
- A Bureau of Education should be established within the BIA to coordinate all aspects of Indian education.

A close inspection of the conclusions generated by this extensive survey demonstrates the level of dissatisfaction of some Indian educators. The issues raised by the respondents are not new; rather, they represent variations of the central theme running throughout this document: that, at a general level, there are many educational needs of Indians that currently are not being met.

PACIFIC NORTHWEST

Most of the materials dealing with the Pacific Northwest educational needs addressed conditions in Alaska and Washington, with the bulk of them discussing concerns and needs of Alaska Natives. Few, if any, discussed programs and needs in Oregon and Idaho, the two other states in the Pacific Northwest geocultural region.

Alaska

In an elaborate account of the history of Alaskan education from 1867 to the present, Ray (1973) identified the major problem as being the dual standards that exist between Natives and nonnatives (cf. Jacquot, 1973). In addition, there are problems among native groups due to the diverse nature of the various Eskimo, Aleut, and Indian villages (Orvik and Barnhardt, 1974). Both sets of difficulties result in the need for (1) bilingual education, (2) improved teaching methods, (3) increase in cultural awareness programs, and (4) development of efficient methods for fostering communication between cultures (cf. Stevens, 1972).

Small-scale assessments. A number of small-scale assessments of educational problem areas have been conducted. Kleinfeld (1973) examined the costs and benefits of alternative high school programs for Alaska Native children. A sample of 105 students from three types of secondary-level boarding schools were studied to determine the effects of their educational experiences. In addition, Kleinfeld obtained follow-up data on 175 graduates from the three institutions. The findings portray a grim picture. In the main, they indicate that: (1) the programs fostered serious social and emotional problems among village students; (2) skills necessary for pursuing a vocation were inadequate; (3) a majority of the students either dropped out or were encouraged to leave; and (4) use of specialized teachers and a varied curriculum proved to be ineffective with native students. Based on these findings, Kleinfeld made the following recommendations:

- Secondary school programs should be established in native villages.
- Boarding homes and dormitory schools should be shut down in areas where there is a high incidence of social deviancy.
- Public boarding schools should be closed.
- Urban boarding schools should remain open to meet needs of students from villages where programs are nonexistent.
- The state should provide a village high school program.

Representatives from seven rural Alaska Native communities compiled a lengthy list of concerns and recommendations for improving the existing educational system (A Modest Proposal, 1973). Major needs expressed were: (1) development of bilingual and bicultural curricula and instructional methods; (2) improvement in the relationship between communities and schools; (3) increased involvement of communities in controlling schools; and (4) development of secondary education programs for local communities. The report is noteworthy because it is based on the opinions and beliefs of community members, and therefore provides tangible evidence that efforts at local control of schools are already under way (cf. Educational Needs of Alaska: A Summary by Region and Ethnic Group, 1973).

In a study of the impact of formal education upon Nunamiut Eskimos of Anaktuvuk Pass, Cline (1972) found that formal education is disrupting the traditional life-style by preparing students to compete in a world markedly different from the village. Cline identified the local teacher as being the primary model for change among village youth. He made two major recommendations: (1) that the needs of the Nunamiut--as interpreted by tribal members--be given prime importance; and (2) that the school attempt to alter its existing dominant-culture influence. These steps would permit the development of an efficient bicultural program.

Major assessments. In 1973, the Project ANNA report was released. This large undertaking, involving BIA personnel, educational specialists, and representatives from all three groups of Alaska Natives, attempted to: "(1) identify educational preferences of Alaska Natives; (2) develop a benchmark of educational information which reflects current BIA programs; (3) develop alternatives and make recommendations about the future role of BIA in education in Alaska; and (4) develop alternatives and make recommendations concerning the future of the two BIA boarding schools in Alaska" (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 18, 1973, p. 1; McDowell, 1973).

The studies involved the use of survey instruments to determine attitudes and education needs in the following areas: (1) students (Boyd and Hena, 1973); (2) school board members (Dumont, 1973); and (3) resident boarding schools (Shook, 1973). The student-oriented instrument contained 59 forced-choice items. Questionnaires were sent to eight different schools, where they were distributed among the student body by school officials. Completed instruments were then mailed to the Indian Education Resource Center in Albuquerque. The results revealed that students:

- Want to retain boarding and village schools as options.

- Generally want to go beyond secondary school for more education.
- Prefer a two-world goal--that is, to be educated in such a manner that they can live and be successful in or out of the home village.

In the school board segment of the study board members from 44 villages were asked to respond to six open-ended items. The results showed that most school board members feel that:

- It is desirable for children to attend schools that are close to their villages.
- Students should be provided with skills that will assist them in assuming adult responsibilities.
- School board members should be given increased decision-making power.
- School board members are not presently prepared to assume control of Alaska Native schools.
- On the whole, the schools are doing an excellent job.

For the boarding school segment of the study, a complex instrument was used. This instrument can obtain up to 420 items of data, which in turn can be listed under 19 broad categories pertaining to activities, programs, equipment, supplies, facilities, and staff (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 18, 1973, p. 96). Although the instrument purportedly provides all the information necessary to determine the extent to which educational needs are being fulfilled, the available information on the results of this segment of the study is complex, lengthy, and cumbersome for discussion. Moreover, the results focus on the extent to which needs are being met, rather than on an assessment of existing needs.

In general, the Project ANNA instruments appear to be minimally adequate. The student questionnaire, however, has a major flaw: there is no indication of the extent to which it reflects the full range of student [illegible] needs. Students may have had needs that could not be assessed because of the forced-choice nature of the pre-established items. The same argument can be stated for the six open-ended items used to assess needs of school board members. Consequently, even though Project ANNA was a comprehensive study, the completeness of the outcome data must be questioned.

Washington

A small number of articles addressed educational needs of rural (both reservation and nonreservation) and urban Indians in Washington.

Small-scale assessments. One source of information in this area is the report of an Indian task force appointed by the governor (Are You Listening, Neighbor?, 1971). The task force identified a number of major problems and needs in the broad area of Indian affairs. Education was given careful consideration, with concerns focusing on the broad-based needs of urban and landless rural Indians--the two main groups of which Washington's Indian population is composed (cf. Proceedings: Indian Education Training Institute, 1971).

The United Indians of All Tribes Foundation in Seattle conducted a survey of the educational needs of 101 families in the Seattle area (Leonard and Argel, 1974). Elaborate forced-choice and open-ended questionnaires were distributed to respondents in nine service areas over a 30-day period. The families expressed needs in the following areas:

- Introduction of culturally enriched curriculum material into the public schools.
- Teaching of courses in Indian history in social programs and in public schools.
- Involvement of community residents in curriculum development at all levels.

- More research to determine efficiency of introducing cultural programs in educational institutions and in service delivery agencies.

In 1971, educational needs of the Yakima Indian nation in Central Washington were assessed (An Assessment of Adult Education as Expressed by Members of the Yakima Indian Nation, 1971). Open-ended field interviews were conducted among small samples in four Yakima reservation communities: White Swan, Wapato, Toppenish, and Satus. Some of the recommendations produced by the study were:

- Programs need to reflect existing career opportunities and job availability.
- An assessment should be made of job opportunities in areas close to the reservation.
- Better communication is needed between schools and community regarding the availability of adult education opportunities.

Major assessment of Washington needs. During the same year, an extensive assessment of the educational needs of Washington's Indian children was conducted by the Center for the Study of Migrant and Indian Education at Central Washington State College (Krebs and Stevens, 1971). The assessment attempted: (1) to identify the problems and needs related to the education of Indians; (2) to establish priorities for meeting the needs and solving the problems that were identified; (3) to provide program descriptions; and (4) to identify sources of potential funding to permit program recommendations to be carried out.

To collect the data, field interviews and structured questionnaires were administered to parents, students, educators, administrators, community organizations, various service agencies, JOM boards, tribal councils, BIA officials, and teacher aides. Respondents were selected on the basis of their availability and their relative status within programs, agencies, and institutions. The study covered three geographic rural areas in the state: the Yakima-Toppenish area, Northwestern Washington, and the Colville area in Eastern Washington.

Problems and needs generated by the respondents were compiled into various categories (health, leadership, etc.) and were distributed to Indian participants in a workshop held at the college. Participants were then asked to rank the needs according to their perceived priority. The following ranking resulted:

1. Upgrade early childhood training programs.
2. Improve communication between school personnel and parents.
3. Sensitize schools to respond positively to diverse cultural life-styles of students.
4. Improve coordination among educational programs, school personnel, parents, and educationally oriented agencies.
5. Develop curricula dealing with Indian culture, history, and contemporary studies.
6. Increase use of paraprofessionals and teacher aides at the elementary school level.
7. Conduct vocational classes emphasizing forestry, fishing, land use, business management, and local government.
8. Upgrade guidance and counseling services at all grade levels.
9. Create favorable and supportive educational climates to encourage students to stay in school.
10. Develop a tutoring program for students with special academic problems.
11. Place more emphasis on bilingual education.
12. Upgrade career and vocational guidance programs.
13. Increase financial support for students who cannot afford to participate in activities requiring extra expenses (e.g., extracurricular activities).

The study also recommended programs to help meet each of the needs expressed.

The two-step approach that the investigators used to assess the needs was particularly interesting. First, they surveyed communities to obtain base-line data; then, after summarizing the needs into appropriate categories, they had a small sample rank them in terms of their importance. Unfortunately, there were some problems with other aspects of the study. Because sample sizes, age composition, and other demographics are not discussed in the report, there is no evidence concerning the degree to which the samples were representative of the population. Nevertheless, the results do seem to provide an accurate picture of the needs of rural Indians in Washington. Furthermore, if these results are combined with those of the Seattle study, a more comprehensive picture of the educational needs of Indians in Washington will emerge.

CENTRAL PLATEAU

Educational needs in the Central Plateau geocultural regional were assessed in only one study: the Intermountain Evaluation Task Force report on phasing out the Intermountain Boarding School in Brigham City, Utah. This school provided a secondary school education for Navajo youth. The value of continuing the program was questioned in light of both self-determination policies and the desire of Navajo parents to have their children attend a school that was closer to home.

A review of the status of the Intermountain program resulted in the following decisions: (1) continued use of the school to serve tribal educational needs appeared undesirable; (2) postsecondary education for Indians, one of the options considered, could better be attained in other institutions; and (3) the desirability of using the physical plant for non-BIA purposes could not be determined at that time.

ROCKY MOUNTAIN AREA

Again, as with the previous section, the needs of Indian youth in this region were addressed by only one article--and a somewhat dated one, at that. The article presented the proceedings from an educational conference on the needs of Indian youth (Fitzpatrick, 1969). The conference was attended by selected local school district officials, representatives from the Montana Department of Public Instruction, BIA personnel, educational specialists from tribal agencies, students, and parents. The consensus of the group was that the major needs were: (1) to develop better home/school relationships; (2) to develop procedures for identifying Indian youth who have special problems or exceptional learning abilities and to provide programs to meet their needs; (3) to establish an efficient and culturally sensitive counseling and guidance program; (4) to provide opportunities for adult Indians to improve their vocational skills in educational settings close to their homes. Although no formal mechanism was used to gather this information, the conclusions appear highly relevant in light of the outcomes of studies cited earlier. This fact raises some doubts as to the need for the development of elaborate procedures, since it appears that reliable information can be obtained with much simpler procedures.

PACIFIC SOUTHWEST

Two surveys conducted in California are relevant to the needs of Indians in the Pacific Southwest area. Myers (1970) studied the Hoopa tribe, which lives on a small reservation in Northern California. Because of the relatively small number of these Indians, their needs and problems are often overlooked. Myers pointed out that their educational needs are no different from those of tribes in other parts of the country. To obtain his information, Myers used a variety of techniques, including: (1) participant observation; (2) structured interviews with community members and tribal officials; (3) distribution of formalized, forced-choice questionnaires; (4) unstructured interviews with teachers, both Indian and non-Indian, and with Indian parents, students, and adults; and (5) classroom visits in grades K-12 in the role of a substitute teacher. From the vast array of information he compiled, Myers concluded that the most pressing needs were:

- To increase parental involvement in school matters.
- To improve communication between home and school.
- To improve curricula.
- To provide more supplies, textbooks, and curriculum materials.
- To develop procedures for reducing and remedying delinquency problems.
- To develop methods to discourage high teacher turnover.

Myers noted that the schools seemed to have a minimal number of racial problems. In fact, he failed to observe any glaring instances of discrimination. Given that the schools were integrated, this finding is somewhat unusual; in similar compositions of students on other reservations, a great many racial problems typically occur. Further study of the structure and nature of the Hoopa community might be able to isolate the factors that contribute to the positive climate in its schools.

The other study relating to educational needs in this region is a survey of Indian educational programs in Inyo and San Bernadino counties in California (California, Inyo County Superintendent of Schools, 1972). This study also assessed the influence of an ESEA Title III project designed to improve academic achievement, improve self-concept, and decrease unemployment. Although, in general, the results of the evaluation are not significant for the purposes of this discussion, one finding merits particular attention: the continued existence of racial problems between Indians and non-Indians, both in the schools and in the community. While some efforts have been initiated to remedy the problem, the rift between the groups appears to be entrenched in the community. The issue of racism merits attention and it is surprising that so few studies have mentioned it.

INTERIOR SOUTHWEST

The states comprising this region have a higher concentration of Native Americans than any other geocultural region. The area is dominated by the presence of Navajos, the largest and perhaps the wealthiest of all United States tribes. Educational developments on the Navajo reservation are well documented; programs at Rough Rock and Navajo Community, in particular, are frequently mentioned in the literature. Despite the educational gains on the Navajo reservations, however, many educational needs still exist. Moreover, there are numerous other Indians in this region, both on reservations and in cities. The needs of some of these groups, including the Navajos, are covered in this section.

Arizona

In 1969 an assessment was made of the educational needs of Indians in Arizona (Consulting Services Corporation, 1969). To collect information, a series of informal group sessions were conducted in selected communities on reservations. Eight to twelve participants were invited to each session. As participants expressed their opinions and preferences for improving the quality of education received by Indian students in their respective communities, their comments were tape-recorded by two non-Indian interviewers, who also filled out interviewer report forms following the sessions. The dialogues were free-flowing and often heated, yet rich in content and information.

Analysis of the recordings generated a large amount of information. When results had been compiled and prioritized, six needs categories emerged: (1) improvement of educator/learner relationships; (2) improvement of students' self-images; (3) increase in student involvement in programs and curriculum development; (4) improvements in educational administration; (5) revision of curriculum structure; and (6) development of procedures to increase community involvement in school programs (cf. Parmee, 1970).

The assessment was well conceived and appeared thorough. Use of informal group discussions to generate data is an effective, time-proven technique, despite its tendency to produce large amounts of information. The study also demonstrated that a more informal data-gathering approach can produce results similar to those derived from more formal data-collection methods.

Wright (1973) studied the educational system of the Ak Chin Indians in Arizona--a system that permits families to participate as a unit. To gater data, he interviewed 52 families and administered an "opinionnaire" to youth between 13 and 18 years of age. Wright found that, in addition to supporting academic education, the Ak Chin see a need for vocational training and adult education. The Ak Chin approach can be viewed as successful in two ways: (1) it combines traditional orientations with contemporary educational methods; and (2) it involves parents in the education of their children.

New Mexico

Although there has been no systematic effort to determine educational needs of tribal groups in New Mexico during the 1970s, a few articles have expressed specific needs. One reported on a conference on federal policy and Navajo education, held in Albuquerque in 1974 (The State of Navajo Education, 1974). In general, the papers presented by the participants concerned the following issues: (1) self-determination policies; (2) localization of school programs;

(3) increased tribal involvement; (4) improved educational guarantees; (5) training of Navajo school boards; and (6) early childhood development programs. These themes suggest that Navajos are dedicated to the concept of self-determination and recognize the possibility for realizing this objective.

A major study was conducted to determine the factors associated with social and occupational adjustment among the rural and reservation Navajos and Papagos (Belding et al., 1974). Education was identified as one of the main factors determining occupational adjustment.

The major finding of the survey revealed that there were an "astounding" number of federal and state educational programs that overlapped--and in some cases duplicated--each other. Despite the number of programs available, however, Belding found that (1) very few Indians had much to say about the policies and operation of the programs, and (2) these efforts were largely unsuccessful in meeting the educational needs of the youth.

The survey results also indicated that a basic conflict was emerging among those who wanted to stay on reservations but realized that the lands were slowly becoming overpopulated. Those who did decide to leave the reservations and who moved to urban areas generally found that their education had not provided them with either effective coping and adaptation skills or appropriate vocational skills. This finding suggests that rural educators (both reservation and nonreservation) may need to give the problem of rural-to-urban migration serious consideration in planning future curricula.

CENTRAL SOUTHWEST

Approximately 15 percent of the Native American population resides in this region, with the vast majority living in Oklahoma. Consequently, the bulk of the small amount of material reviewed for this region deals with Oklahoma Indian educational needs.

Oklahoma

Oklahoma's Indian population is unique, both in its tribal diversity and its geographic distribution. There are no reservations in the state, and yet there are approximately 35 federally recognized tribal governments. Most Oklahoma Indians live in rural areas. The absence of reservations has promoted integration of Indians and non-Indians in practically all aspects of community life. Despite pressures to assimilate, however, Oklahoma Indians have managed to retain elements of their cultural heritage. Many are bilingual, follow traditional religious practices, and actively participate in ceremonials.

Boarding school studies. Although BIA-sponsored boarding schools exist in Oklahoma, most Indian youth attend public schools. Typically, the Indian student represents a minority in the classroom, although there are a few exceptions. This minority status frequently causes teachers to overlook the presence of Indian students and to concentrate instead on the needs, values, and folk backgrounds of non-Indians (Wax, 1971). Many Indian youth react to this situation by dropping out, while others transfer to one of Oklahoma's Indian boarding schools.

Evaluations of three Oklahoma boarding schools have been conducted to determine the schools' effectiveness in meeting needs of Indian youth. One, an evaluation of Riverside Indian High School in Anadarko, had results that were generally positive (U.S., Department of the Interior, BIA, Research and Evaluation Report Series, No. 19.01, 1976). The evaluators did find some deficiencies, however. Their recommendations, based on an analysis of their results, are: (1) to explore and improve alternative methods of secondary education; (2) to develop ways to improve staff and student relationships; (3) to improve the physical facilities; and (4) to decrease the dropout rate.

The second study evaluated the Chilocco Indian School, near Ponca City (Hopkins, 1972). To obtain information, a goals-development survey was mailed out to 1,600 parents, students, and alumni; one-third responded. On the average, respondents felt there was a need to: (1) keep Chilocco open and operating with existing staff; (2) develop ways to improve communication skills of students; and (3) improve communication between school and home.

The study, however, showed a number of weaknesses:

- The report contains an assortment of confusing and disorganized details, many of which are ignored in the final analysis and overview.
- The report fails to recognize the need for constructive reform in an institution where 300 students find their educational experiences irrelevant and meaningless.
- Use of mail-out questionnaires is a weak survey approach and is highly biased.
- The study was poorly conceived and lacks an empirical perspective.

If anything, this study serves as an example of the type of approach that should be avoided in evaluation research.

The third study involved an evaluation of Fort Sill Indian School, an off-reservation boarding school near Lawton (Rosenbluth, 1973). The major goal of the evaluation was to review and develop the long-range goals of the institution. A number of instruments were used to obtain different types of information from a variety of sources. To assess educational preference, a 33-item, forced-choice instrument was sent out to 500 students, staff members, parents, tribal representatives, and others. As is typical of mail-out questionnaires, the response was less than desirable, but the researcher felt that "...consistent answers and ranking by persons...lend validity to the survey" (p. 59). They did not, however, discuss which criteria were used to determine the validity of the results.

Educational goals were generalized from the material gathered in the survey; these goals were then briefly discussed. The report lists some 20 educational needs, ranging from improving the school's telephone system to refurbishing classrooms. The list reads like most found in surveys of this type, but the procedure used to identify these needs is questionable. Further substantiation and elaboration are needed before these findings can be considered significant.

Oklahoma assessment of needs. In 1974, the BIA contracted with educators at Oklahoma State University to evaluate the educational needs of Oklahoma Indians (Oklahoma Indian Education Needs Assessment, 1976). This study is by far the most comprehensive and thorough assessment of needs that has been conducted to date. The total report is contained in four very thorough, clearly written, and concise documents.

The information was gathered in an interesting manner. First, questionnaire items, dealing with both the educational goals of Oklahoma Indian students and the types of programs needed to meet these goals, were developed on the basis of findings from a review of literature and from discussions with Indian leaders. The questionnaire was then mailed out to 10 groups, including, among others, BIA school board members, Title IV parent advisory committees, teacher aides, and students. The response was overwhelming, far exceeding the rates found in previous studies.

When the questionnaires were in, results were arranged in categories and given a priority rank. Goals and needs were analyzed separately. The results generated 18 educational goals and 43 needs, e.g., development of classes in Indian history; inclusion of Indian values in the classroom; development of preschool programs; employment of Indian counselors, including guidance counselors; and development of extracurricular activities. Both goals and needs resembled those of other needs assessments conducted in Indian communities.

The procedures, methodology, and data analysis techniques used in the study are all excellent, and the sample is highly representative. These factors make the conclusions of this study more convincing. The study design should serve as a model for future needs assessments.

Texas

Most of the Indian population of Texas resides in the Dallas-Fort Worth (DFW) metropolitan area. To determine the community needs of the urban Indian population in the DFW area, Dallas County Community College conducted a survey of 1,260 families. Information was sought concerning personal needs, educational needs, employment needs, and cultural needs (A Survey of the Educational and Occupational Needs of the American Indian in Dallas County, 1973). Results pertaining to educational needs indicate that public schools are not meeting all of the cultural needs of Indian students. Respondents also expressed a need for management training and vocational education courses, to assist them eventually to become self-employed.

Although the Indian population of the DFW area is larger than that of many federally recognized reservations, this was the only available article discussing Indian educational needs in Texas. This is an unfortunate situation; clearly, more attention should be given to assessing urban Indian needs in the future.

UPPER MIDWEST

Michigan

The only available report on Michigan Indian educational needs is a 1974 report prepared by the State Coordinator of Indian Education for the Michigan Board of Education. The intent of this report was to identify the educational needs of urban and rural Indians residing in Michigan.

Most of the data used to substantiate the lengthy list of needs were obtained from personal interviews and group discussions. Resource persons, educators, tribal officials, urban Indian leaders, and teachers were interviewed by members and appointed representatives of the Indian Education Advisory Council. The interview format, while informal, was designed to optimize open expression.

The major needs expressed by those interviewed were: (1) to develop ways to reduce high dropout rates; (2) to develop curricula that serve to motivate students and to increase their desire to complete their educational goals; (3) to develop culturally meaningful curricula; (4) to improve opportunities for Indian youth to pursue college degrees; and (5) to develop better procedures for distributing federal funds for Indian education. These needs are similar to those expressed by Indians in other states.

Minnesota

In 1968 and 1969, the National Council on Indian Opportunity sponsored a series of hearings in the Minneapolis-St. Paul area. Portions of the hearings focused on the educational needs of urban Indians residing in this area. The testimony provided by tribal and urban leaders, educators, and students indicated that in this area there are needs for: (1) education for newly arriving Indians; (2) vocational training for secondary school students and adults; (3) career counseling and job development for late adolescents; (4) increased opportunities for postsecondary education; (5) home economics training for housewives; and (6) communication among urban Indian residents of availability and function of services, agencies, and resources.

North Dakota

Three articles were identified that discussed educational needs of Indians living in North Dakota. In one study, 80 employees of a bearing plant and 52 household heads from the Turtle Mountain Reservation were surveyed to determine education-related attitudes (Survey of Education Related Attitudes of Tribal and Non-Tribal Workers, 1974).

The survey was conducted using a combined forced-choice open-ended questionnaire. Questionnaire items attempted to assess (1) educational achievement, (2) individual achievement, (3) educational influence, (4) educational experiences, (5) work evaluation, (6) life environment, and (7) public interest. Information was also obtained about factors such as students' educational achievements. In addition to reaching numerous conclusions about attitudinal differences, the study found that a need exists for more BIA postsecondary grants.

The second study (Stockman, 1971) provided an historical perspective of federal educational promises and performance among Indians on the Fort Berthold Reservation. Stockman identified three main needs: (1) to emphasize education that will help Indians make efficient use of their lands; (2) to develop culturally rich curricula in local schools; and (3) to increase opportunities for parental participation in the educational process.

The third study evaluated the status of the White Shield School in Roseglen, North Dakota (Matsushige, 1974). An "on-site" visitation team surveyed parents, students, tribal leaders, administrators, and faculty. Additional data were collected from respondents, records, and observations during a five-day period.

The school is integrated, with a 50 percent Indian enrollment. The study team found a number of serious problems affecting Indian students: (1) underachievement; (2) minimal community/school interaction; (3) lack of written educational, administrative, parent/school, and personnel policies; and (4) lack of information on curriculum development policy. The study produced four recommendations:

- More flexible course requirements.
- More stern discipline policy.
- Improved course offerings in extracurricular activities.

- Development of procedures to increase the attractiveness of education.

A particularly interesting aspect of the methodology of this study was its use of a visitation team that spent five days at the site obtaining specific information. Although there are disadvantages to this method--expense, for example--it is worthy of consideration in needs assessment research.

South Dakota

Two studies dealt with Indian education needs in South Dakota. In one, Anderson (1974) used a variation of the Oklahoma State University procedure described earlier to assess educational needs of the Oglala Sioux on the Pine Ridge Reservation. Anderson involved school board members, administrators, the BIA educational officer, teachers, students, parents, and interested community members in the survey-both in the questionnaire-development stage and as interviewers. The study produced the following list of needs, presented in order of priority:

- Needs for adults--continuing education, communication skills, citizenship preparation, and knowledge of cultural heritage and values.
- Needs for students--continuing education, communication skills, job preparation, citizenship preparation, and knowledge of cultural heritage.
- Needs for teachers--communication skills, knowledge of Indian values, skills to improve interpersonal relationships, job preparation, and citizenship preparation.

Anderson's involvement of the community in all phases of the study proved to be a valuable technique--not only for producing accurate data, but also for fostering closer relationships among community members. The technique is worthy of consideration for use in needs assessment of other Indian communities. Anderson's evaluation approach and methodology were also sound; consequently, the results of the study are very convincing.

The second article described an evaluation of the 1972-73 Pierre School Program (U.S., Department of the Interior, BIA, Research and Evaluation Report Series No. 22, 1973). The study used a five-stage model, in which the results of each stage were fed into the successive stage and used to make appropriate decisions.

Planning meetings, involving staff members from the school, were held to determine the nature and direction of the evaluation. An evaluation team, consisting of eight representatives from various Indian communities and educational institutions, incorporated the proceedings from these meetings into an evaluation plan. The plan involved 10 decision areas, each representing a major component of the Pierre Indian school--e.g., philosophy and goals; admissions; social and psychological services; and school/community relations. For each decision area, the team determined the major issues and concerns.

Following the completion of the evaluation plan, an open-ended questionnaire was developed and administered to a sample of Indian parents from 15 reservations in the area of Aberdeen, South Dakota. One of the major needs identified by the study--a need named by 30 percent of the respondents--was to develop programs for children requiring "special assistance" (e.g., students with hearing, visual, physical, personal, mental, emotional, or academic problems).

The evaluation plan used in the study is an elaborate, detailed model. Its function is simply to identify the educational needs of students at the school and to develop a set of program goals to meet these needs. Although the plan is thorough and comprehensive, the text of the report is lengthy and does not lend itself to concise summarization. The method, however, despite the amount of time and effort involved in putting it to full use, is worth considering for future studies of this type.

Wisconsin

A few short articles have been identified that discuss educational needs of Indians in Wisconsin. One discussed an assessment of the educational attitudes of 78 Indian students attending a Catholic school in Menominee County--one of the few studies that discuss the role of the parochial school in Indian education (Sherarts, 1972a). A variety of instruments were used, including the Goodenough-Harris Draw-a-Person test and a student questionnaire. The results indicated that students found the education they were receiving to be valuable, but felt that the curriculum should be expanded to include Menominee culture.

In the second phase of the study, educational attitudes of public school students were surveyed (Sherarts, 1972b). The findings were similar to those of the first phase. This similarity suggests that it is possible that the kind of school attended by the Indian student is not as important as the attitude the student holds toward the institution. In all likelihood, positive student attitudes toward education are closely related to the educational attitudes of the community in which the students live.

Racial prejudice and the general treatment of Indian students are infrequently discussed in the literature. One study, however, documented instances of physical abuse of, and discrimination against, Menominee youth in Wisconsin (Casper, 1973). Using student reports and personal documentation of VISTA volunteers, Casper painted a grim picture of insensitivity and closed-mindedness to change on the part of principals and teachers. Not only were Indian parents not represented on committees, but school officials did not even respond to inquiries and recommendations from the Indian community. In short, the school showed a blatant disregard for the needs of Indian youth. Not surprisingly, it also showed a tremendous dropout rate; in addition, there was high unemployment among Indians in the community.

Although it is likely that, given the resurgence of Indian activism in the last few years, improvements have been made in the school system since 1973, the study serves to remind us that abuse and neglect may still be occurring in other areas of the country. There is a need to determine the extent to which this situation exists and, in areas where discrimination is found, to develop mechanisms for encouraging public schools to be more responsible to Indian educational needs.

SOUTH

Mississippi

Only two studies were found that reported on conditions in Mississippi. These dealt with the Choctaw and Chitimacha schools. Although earlier researchers noted the positive impact that self-determination had had on these schools, a later evaluation reported that a number of needs still remained to be met.

In the first study, Peterson and Richburg (1970) found a great degree of self-determination among the Mississippi Choctaws, resulting from the activist movements of the 1960s. Two examples of this Indian influence were (1) a high degree of community involvement in educational decision making, and (2) an emphasis on Indian culture in curriculum and educational programs. The authors cite a number of problems, however. These problems, characteristic both of the Choctaws' situation and of Indian education in general, include (1) prejudice, and (2) a lack of experience and cultural understanding on the part of both teachers and administrators.

A later evaluation of Choctaw and Chitimacha schools (U.S., Department of the Interior, BIA, Research and Evaluation Report Series No. 23, 1973) produced numerous strong recommendations. Among them were:

- Hold a conference every other year to revise educational philosophies.

- Devise a master plan for the budget and programs.
- Introduce a year-round school, to be attended on a voluntary basis.
- Improve the physical facilities at three of the schools.
- Use federal funds to implement career education.
- Organize a curriculum committee for planning.
- Introduce a unified phonics approach to reading in all classes.
- Reorganize the math curriculum to relate it to career education.
- Extend Project Head Start.
- Integrate Title I programs into the schools' philosophy.
- Introduce bilingual education into six Choctaw schools.
- Introduce health education units.
- Design an in-service training program for all teachers.
- Hire teachers on a competency basis.

Florida

A BIA school for Seminole children, Ahfachkee Day School, was evaluated by Greene and Kersey (1975). The researchers found the school to represent a microcosm of the problems besetting national Indian education: a school setting that was only marginally responsive to Indian needs, low student achievement, and a high dropout rate. Efforts to improve the situation, such as building a new school plant, increasing expenditures, and adding supplementary Title I projects, made little impact. An analysis of these failures showed that, to a large extent, they resulted from:

- The government's inability to provide adequately prepared teachers.

- A virtual absence of supervision in the instructional program.
- A lack of breadth in the curriculum.
- Inappropriate materials.

Some of the recommendations of the study included: (1) stabilization and continuity of school personnel; (2) sequential curriculum plans responding to the cultural needs of the students; and (3) a more detailed definition of government policy toward the school.

Other studies have attempted to determine the reasons behind the failure of Seminole schools to meet the children's needs. Kersey (1970) felt that the students' home environment did not adequately prepare them for school, both because of economic and intellectual deprivation and because of a lack of encouragement from their parents. Another possible source of problems is the administration of the school. Kersey (1973) compared the schools of the Seminoles and the Miccosukee on this point. The Seminole school, run by the BIA, was beset by the problems mentioned above. The Miccosukee school, however, which has been controlled by the community since 1971, has improved the social skills, academic achievement, and self-concept of its students. Some of the changes instituted by the tribe include:

- A curriculum tailored to Indian needs.
- Bilingual textbooks.
- A reading program that makes a slow transition to English.
- Indian language classes for non-Indian employees.
- Use of Indian adults to teach Indian culture and to take students to remote camps where they learn traditional ways.

An evaluation of Miccosukee Indian School found needs that were substantially different from those of the Seminole school (U.S., Department of the Interior, BIA, Research and Evaluation Report Series No. 06-B, 1975). These needs deal mostly with upper-level administrative decisions. Some of the recommendations produced by the study were to:

- Hire a program coordinator.
- Draw up a contract with teachers.
- Restructure the goals of curriculum.
- End the school year early to allow students to attend traditional ceremonies.

NEW ENGLAND

Very few articles dealt with the educational needs of Indians from the New England states, and none provided a systematic survey of needs. In one article, Skinner (1971) gave high praise to the Harvard Preschool Project, whose primary contribution was the listing of 17 traits of intellectually gifted children. However, Skinner criticized the obsession of American educators with packaging all learning into programs.

Maine

An assessment was made of needs of off-reservation Indians in Maine (Sockabasin and Stone, 1971). The study, however, ran into some difficulties. Many of the Indians spoke French or an Indian language and only partially understood English; consequently, the interviewers had some difficulty in conveying the reason for their visit, and many of their questions were misunderstood. Despite these problems, the study team was able to identify an important need: that of providing a central coordinator for programs of off-reservation Indians.

New York

The New York Board of Regents proposed several methods for assisting cultural transition and adaptation for New York Indians (New York, 1975). Among their recommendations were:

- To establish a statewide Native American education advisory committee that would include tribal representatives among its members.
- To establish a Native American education advisory board for each tribal group.
- To urge school boards to develop employment policies for hiring Indians, both as teachers and as noninstructional personnel.
- To teach cultural heritage of Indians at teacher training institutions.
- To incorporate special bilingual/bicultural instructional programs and materials into the elementary and secondary school curricula.
- To assist tribal communities in the development of continuing education programs.
- To offer grants-in-aid to Indians for postsecondary education.
- To provide postsecondary guidance counseling services.
- To continue to use BIA and USOE supplementary education funds.

SUMMARY AND CONCLUSIONS

This section includes articles that identify the educational needs of Indian communities in 10 geocultural regions. The discussion includes analyses of research and evaluation methodologies.

A variety of methodologies have been used, ranging from informal observation, survey, and interview techniques to intensive on-site monitoring of the educational process. Strengths and weaknesses exist for each approach. However, regardless of the technique used, the same general needs categories seem to emerge.

Although it is clear that many Indian communities have very similar educational needs, it is also evident that communities differ in the importance they give to the various needs. Alaska Native villages, for example, need more secondary schools, while the Sioux are in need of improved curricula in existing secondary schools.

Finally, it must be noted that there are a number of areas on which there is little information. These areas include states such as Nevada, Kansas, Arkansas, North Carolina, and Oregon. The absence of information for these and other areas suggests that more research is required. Moreover, for all areas, there is a need to continue to develop culturally sensitive instruments, to permit an accurate assessment of the needs of Native Americans.

PART II

SUMMARY OF INFORMATION GAPS IN THE KNOWLEDGE OF NEEDS

INTRODUCTION

The contents of this part of the report represent a summary of the information contained in the review of the literature.

This portion of the report represents a summary of the information contained in the review of the literature. What follows should not be construed as a shopping list of needs that are or have been met or that must be met. It merely represents a synthesis of the results and findings of a selective review of existing literature based upon certain criteria relative to identifying potential educational needs and assessment information. The results of this report, although useful by the very nature of its contents, will be the starting point in developing a methodology and procedure for the upcoming needs assessment survey aspect of this study.

The objectives of this section are:

- To identify needs expressed in the literature.
- To identify the gaps in the awareness of these needs.
- To present the needs in a format that will be useful in constructing survey instruments to gather missing information.
- To use the multilevel classification schema to help carry out these objectives.

Upon the completion of the literature review, each individual review was examined once again. Needs, both expressed and implied, were extracted from the reports and condensed into short, descriptive phrases. The lists of needs were then organized and categorized according to the multilevel classification schema as follows:

- Needs categories--Administration (A), Instruction (I), Teacher Training (TT), Curriculum (Cu), Special Programs (SP), Students (S), Counseling (Co), and Economics (E).
- Geocultural regions--Pacific Northwest (PNW), Central Plateau (CP), Rocky Mountain (RM), Pacific Southwest (PSW), Interior Southwest (ISW), Central Southwest (CSW), Central Midwest (CMW), Upper Midwest (UMW), South (S), including South Lowland, South Upland, and South Mountain, and New England (NE).
- Educational level-- Preschool (PS), Elementary (E), Secondary (S), Higher Education (HE), and Adult (A), including Adult Basic, Postsecondary (i.e., community colleges), and Vocational-Technical.

The needs categories serve to show the primary focus of the articles reviewed, while the items listed under each category indicate the specific needs in that area. Articles were placed in a partiuclar category because they focused on that conceptual area. Thus, an article that dealt with the recruitment of teachers was put under "Instruction", even though the specific needs it identified may have ranged from administrative reorganization to cultural sensitivity.

The categorization of needs according to regional distribution was done for two reasons: (1) it provides a picture of the specific needs of each region, and (2) it permits comparisons to be made between the needs of one region and those of another. (See Figure 1 for the distribution of states within each region). To make comparisons easier, an attempt was made to place similar needs in the same order within each region. For further clarification, needs are identified with particular states and tribes wherever possible.

The educational level categories were developed to indicate the age group that was the focus of the research. A study that collected data on a group from a particular educational level, such as preschool, is put under the heading for that level, despite the fact that the needs it identifies may apply to other educational levels. Thus, an article dealing with Head Start programs would be placed under the "Preschool" heading, even though it identified a need for teacher training, which in itself is a higher education need.

One additional point should be made about this categorization method: It reflects the educational needs as identified by the groups from whom the data were gathered. This method mecessarily results in a certain amount of redundancy; it also provides lists of needs that may apply to more than one category. For instance, the students in a secondary school in Arizona might identify needs in the areas of teacher training, administrative reorganization, and more social activities. Although this arrangement is not entirely orderly, we feel that it best reflects the educational needs as they are identified by different groups in the various regions.

ITEMIZATION OF NEEDS

In Tables 1 to 9, educational needs are itemized first by need categories; within each category, needs are broken down further by both geocultural region and educational level. Many articles addressed Indian education needs in a broad and sweeping way. Those articles that dealt with a specific educational level but did not focus on a particular region of the United States were placed under the specific need area and educational level, but under a label of "All U.S." rather than in a particular geocultural region. Similarly, those articles that were specific in other ways nut not on the educational level were labeled "All Levels". Those articles that neither specified an educational level nor focused on a need category were listed in the last table, under "General Needs". If they dealt with a specific geocultural region, they were placed under the region addressed, otherwise, they were categorized under "All U.S.".

One additional feature was developed to help clarify the information presented in the tables: numbers in parentheses were placed opposite the geocultural region label to indicate the number of articles written about that region with respect to that particular need area and educational level. Sometimes, an article would discuss a region but would express no specific needs: in such a case, the region and number of articles are given, but no needs are listed opposite them. In other cases, a single article would present a long list of needs. Thus, the number of articles does not represent the number of expressed needs.

Tables 10 to 12 show the distribution of articles according to the categories in the classification schema. The italicized number in each cell of the matrix represents the number of articles that focused on that particular area (such as the number of articles which addressed preschool children in the Interior Southwest and the training of their teachers). This number does not represent all of the material available on the theme; rather, it represents the number of articles identified and reviewed during the review phase of this project. (It will be recalled that about 180 articles were not available for review.) Nevertheless, the number serves as an indication of the relative attention a theme has been given. The matrix is also helpful in identifying places where gaps exist in the literature, since the absence of a number in a cell indicates the unavailability of information for that subject, level, and region.

To further clarify the relative importance of the needs that are still unmet, American Indian population estimates were tabulated for the different geocultural regions and educational levels (Table 13). (See Figure 1 for representation of states in each geocultural region.) These estimates indicate the number of American Indians potentially affected by the unmet needs. Relative populations are also indicated in Tables 10 to 12. The number to the right of each matrix row represents the percentage of the Indian population involved at that educational level in that region.

The final section of this part of the report is devoted to identifying the gaps that still exist in the literature. The discussion focuses on those data that would be most relevant to a needs assessment survey.

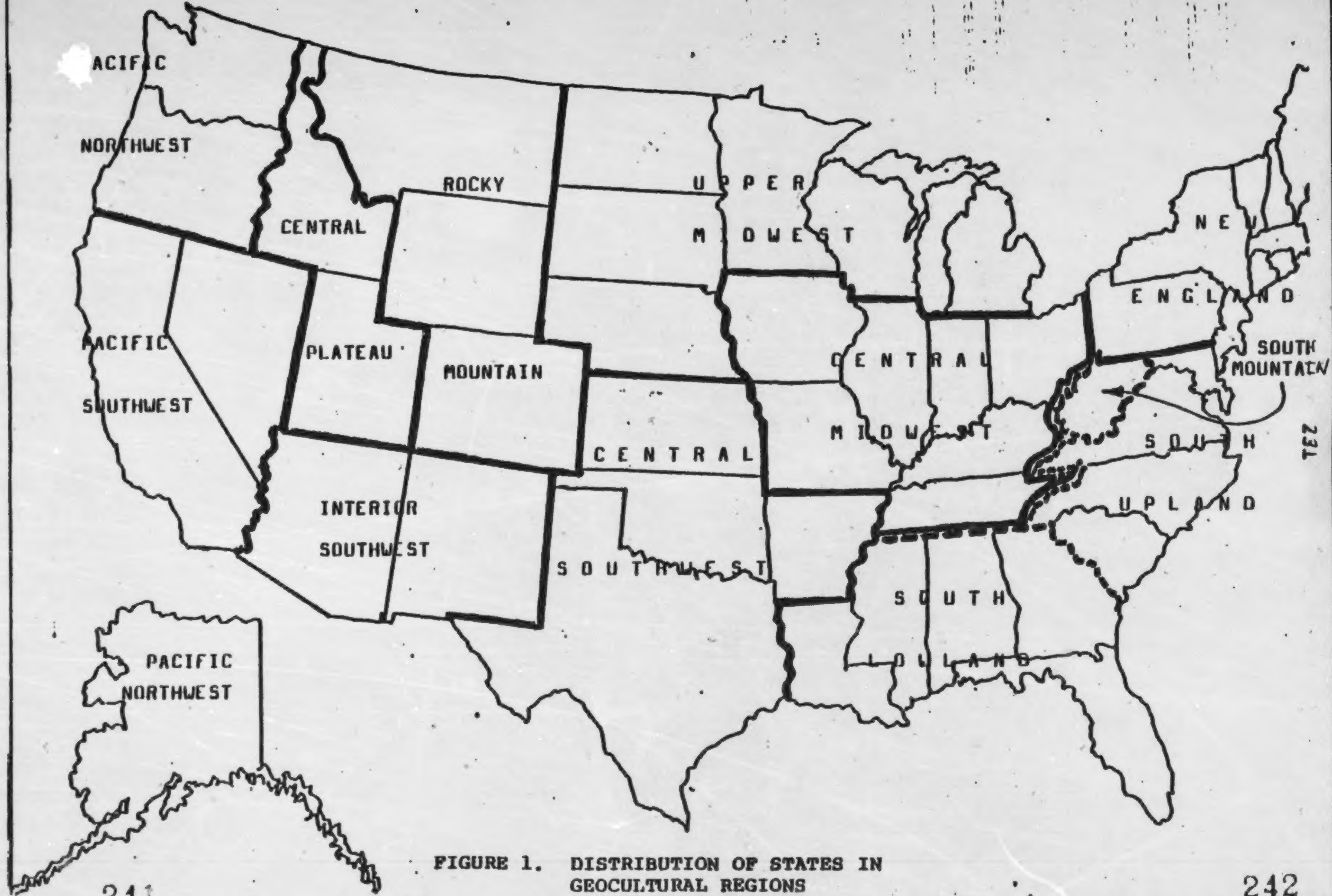

FIGURE 1. DISTRIBUTION OF STATES IN GEOCULTURAL REGIONS

TABLE 1

ITEMIZED LIST OF ADMINISTRATION NEEDS

Region	Educational Level
	All Levels
All U.S. (9)	Local Indian control of schools
	Better management of BIA schools
	Broader interpretation of JOM Act
	Assurance that funds will reach students
	Personnel for special students
	Teacher training programs improved
	Cultural training of administrators
	Include Indian history and culture
	Bilingual materials
	Vocational education
	Programs to develop interpersonal skills
	Curriculum to improve self-image
	Data on handicapped students
	Information system to regularly collect needs data
	Periodic program evaluation
	Transportation to school
Pacific Northwest (1)	Indian teachers
	Support traditional values
Interior Southwest (18)	Local Indian control of schools
	Parent involvement
	Consolidated community leadership
	Decision-makers aware of modern needs
	Tribal education agency
	Public school districts responsive to Indian needs
	Indian administrators
	Communication between school and parents

TABLE 1--Continued

Region	Educational Level
Interior Southwest--Continued	All Levels--Continued
	Staff meetings to improve community insight
	Teach tribal religion
	Bilingual programs
	Teach local history
	Focus on personal and community growth
	Tutoring
	Reading program for adults
	Kindergarten
	Upward Bound in high school
	Science enrichment program
	College-level extension courses
	Vocational education
	Higher education
	Scholarships for college
	Elementary
Interior Southwest (1)	Information for school board decisions
Upper Midwest (2)	Better communication between school and home
	Greater cooperation from principal with parent-teacher conferences
	In-service training for parent-teacher conferences
	Accomodate Indian learning styles with culture courses
	Secondary
All U.S. (4)	Local Indian control of schools
	Define present national policy on termination of federal schools
	Better communication between school and home
	Encourage education aspirations

TABLE 1--Continued

Region	Educational Level
All U.S.--Continued	Secondary--Continued
	Information about college for prospective students
Pacific Northwest (1)	Prepare for a good job
	Honor tribal ways
Rocky Mountain (1)	School board take an active leadership role
	Hire staff to meet qualifications
Interior Southwest (6)	Responsive to community needs
	Indian staff
	Resolve classification of schools as "demonstration schools"
	Higher education
	Teach how to cope with outside world
	Prepare for a good job
	Classify English as a foreign language
	Teach continuing leisure activities in physical education
	Higher
All U.S. (1)	Students and parents develop local curriculum build on Indian value system

TABLE 2

ITEMIZED LIST OF INSTRUCTION NEEDS

Region	Educational Level
	All Levels
All U.S. (19)	Self-determination without termination Indian involvement in school organization and policy-making Evaluation of instructional methods Methods of motivating students Development of teaching techniques relevant to student needs Individualized instruction Development of accurate measurements of linguistic abilities Bilingual teachers Recruitment and hiring of Indian teachers Preservice teacher training Retraining of existing staff Reduction in teacher turnover rates Programs to increase cultural awareness Positive attitude changes toward Indians on the part of non-Indian staff Development of curriculum and materials relevant to students needs Bilingual/bicultural education Vocational programs with emphasis on areas that have manpower needs Less discipline in BIA schools
	Preschool
All U.S. (1)	Assessment of behavior of Indian preschoolers

TABLE 2--Continued

Region	Educational Level
	Elementary
All U.S. (3)	Self-determination without termination
	Evaluation of school programs
	Tutors
	Development of diagnostic tests based on vocabulary requirements
	Identification of aspects of Indian culture that require adjustment of educational setting
	Development of curricula and materials relevant to Indian needs
	Bilingual/bicultural education and materials
	Recognition of individual differences among Indian students
Pacific Northwest (3)	Teacher aides
Alaska	Recruitment and hiring of Native teachers
Washington	Upgrading of teacher selection criteria
	Incorporation of geographical, cultural, and sociological factors into teacher training
	Information for teachers on instructional resources
	Programs to increase cultural awareness
Rocky Mountain (2)	Evaluation of instructional methods
Montana	Methods of motivating students
	Indian teacher aides
	Improvement of schools texts and curricula
	Development of criteria for selection of materials
	Indian studies programs

TABLE 2--Continued

Region	Educational Level
Rocky Mountain--Continued	Elementary--Continued
	Assessment of teacher attitudes toward Indian students
	Determination of relationship between student attitudes and achievement
Interior Southwest (3)	Evaluation of testing instruments
New Mexico	Indian teacher aides
Navajo	Programs to increase cultural awareness among non-Indian staff
	Development of materials relevant to student needs
Upper Midwest (5)	Indian involvement in school organization and policymaking
Michigan	Innovative teaching methods
	Tutors
	Programs to increase cultural awareness and reduce prejudice
	Secondary
All U.S. (2)	Recruiting and hiring of Indian teachers
	In-service training
	Improvement of schools texts and curricula
	Indian studies programs
Pacific Northwest (4)	Indian involvement in school organization and policymaking
Alaska	Innovative teaching methods
	Analysis of teacher behavior
	Recruiting and hiring of Indian teachers
	In-service training
	Bicultural curricula

PART III

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